

VPDES PERMIT FACT SHEET

This document gives pertinent information concerning the reissuance of the VPDES permit listed below. This permit is being processed as a **Minor Industrial** permit. The effluent limitations contained in this permit will maintain the Water Quality Standards of 9 VAC 25-260. The discharges result from storm water associated with industrial activity and non-contact cooling water used during the enhancement of polyester films through processes including dyeing, metallizing, and sputtering. The permit action consists of reissuing the permit for a five-year term with limitations on the non-contact cooling water for temperature and pH. The permit also addresses storm water pollution prevention.

1. Facility Name and Address:

SIC Code: 2672

CPFilms, Incorporated
P.O. Box 5068
Martinsville, VA 24115

Location: 4210 The Great Road, Fieldale, VA 24089 (Henry County)

2. Permit No. **VA0072354**

Expiration Date: February 28, 2011

3. Owner Contact: Name: Mr. Peter Ozoh
Telephone No: (276) 627-3475

Title: Environmental Specialist

4. Application Complete Date: January 11, 2011

Permit Drafted By: Lynn V. Wise

Date: April 13, 2011

DEQ Regional Office: Blue Ridge Regional Office - Roanoke

Reviewed By: Kip Foster

Date: April 19, 2011

Public Comment Period Dates: From: 4/27/11

To: 5/27/11

5. Receiving Stream Names: Smith River and Smith River, UT

River Mile: 35.29 and 0.08

Basin: Roanoke River

Subbasin: Roanoke River

Section: 3d

Class: VI

Special Standards: PWS

	<u>Smith River</u>	<u>Smith River, UT</u>
7-Day, 10 Year Low Flow:	63.3 mgd	0 mgd
1-Day, 10 Year Low Flow:	35.2 mgd	0 mgd
30-Day, 5-Year Low Flow:	82.8 mgd	0 mgd
30-Day, 10-Year Low Flow	72.7 mgd	0 mgd
Harmonic Mean Flow:	122.3 mgd	0 mgd

Tidal? YES/NO

On 303(d) list? YES/NO

6. Operator License Requirements: None

7. Reliability Class: NA

**State "Transmittal Checklist" to Assist in Targeting
Municipal and Industrial Individual NPDES Draft Permits for Review**

Part I. State Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name: CPFilms, Inc.

NPDES Permit Number: VA0072354

Permit Writer Name: Lynn V. Wise

Date: May 24, 2011

Major ☐Minor ☒Industrial ☒Municipal ☐

I.A. Draft Permit Package Submittal Includes:

	Yes	No	N/A
1. Permit Application?	X		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	X		
3. Copy of Public Notice?		X	
4. Complete Fact Sheet?	X		
5. A Priority Pollutant Screening to determine parameters of concern?			X
6. A Reasonable Potential analysis showing calculated WQBELs?			X
7. Dissolved Oxygen calculations?		X	
8. Whole Effluent Toxicity Test summary and analysis?		X	
9. Permit Rating Sheet for new or modified industrial facilities?			X

I.B. Permit/Facility Characteristics

	Yes	No	N/A
1. Is this a new, or currently unpermitted facility?	X		
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	X		
3. Does the fact sheet or permit contain a description of the wastewater treatment process?			X

I.B. Permit/Facility Characteristics – cont.	Yes	No	N/A
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?		X	
5. Has there been any change in streamflow characteristics since the last permit was developed?		X	
6. Does the permit allow the discharge of new or increased loadings of any pollutants?		X	
7. Does the fact sheet or permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	X		
8. Does the facility discharge to a 303(d) listed water?	X		
a. Has a TMDL been developed and approved by EPA for the impaired water?	X		
b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?			X
c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water?		X	
9. Have any limits been removed, or are any limits less stringent, than those in the current permit?		X	
10. Does the permit authorize discharges of storm water?	X		
11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		X	
12. Are there any production-based, technology-based effluent limits in the permit?		X	
13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		X	
14. Are any WQBELs based on an interpretation of narrative criteria?		X	
15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		X	
16. Does the permit contain a compliance schedule for any limit or condition?		X	
17. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?		X	
18. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?	X		
19. Is there any indication that there is significant public interest in the permit action proposed for this facility?		X	
20. Have previous permit, application, and fact sheet been examined?	X		

Part II. NPDES Draft Permit Checklist

Region III NPDES Permit Quality Checklist – for POTWs (To be completed and included in the record only for POTWs)

NA

II.A. Permit Cover Page/Administration

	Yes	No	N/A
1. Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?			
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?			

II.B. Effluent Limits – General Elements

	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?			
2. Does the fact sheet discuss whether “antibacksliding” provisions were met for any limits that are less stringent than those in the previous NPDES permit?			

II.C. Technology-Based Effluent Limits (POTWs)

	Yes	No	N/A
1. Does the permit contain numeric limits for <u>ALL</u> of the following: BOD (or alternative, e.g., CBOD, COD, TOC), TSS, and pH?			
2. Does the permit require at least 85% removal for BOD (or BOD alternative) and TSS (or 65% for equivalent to secondary) consistent with 40 CFR Part 133?			
a. If no, does the record indicate that application of WQBELs, or some other means, results in more stringent requirements than 85% removal or that an exception consistent with 40 CFR 133.103 has been approved?			
3. Are technology-based permit limits expressed in the appropriate units of measure (e.g., concentration, mass, SU)?			
4. Are permit limits for BOD and TSS expressed in terms of both long term (e.g., average monthly) and short term (e.g., average weekly) limits?			
5. Are any concentration limitations in the permit less stringent than the secondary treatment requirements (30 mg/l BOD5 and TSS for a 30-day average and 45 mg/l BOD5 and TSS for a 7-day average)?			
a. If yes, does the record provide a justification (e.g., waste stabilization pond, trickling filter, etc.) for the alternate limitations?			

II.D. Water Quality-Based Effluent Limits

	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?			
2. Does the fact sheet indicate that any WQBELs were derived from a completed and EPA approved TMDL?			

II.D. Water Quality-Based Effluent Limits – cont.	Yes	No	N/A
3. Does the fact sheet provide effluent characteristics for each outfall?			
4. Does the fact sheet document that a “reasonable potential” evaluation was performed?			
a. If yes, does the fact sheet indicate that the “reasonable potential” evaluation was performed in accordance with the State’s approved procedures?			
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?			
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have “reasonable potential”?			
d. Does the fact sheet indicate that the “reasonable potential” and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations)?			
e. Does the permit contain numeric effluent limits for all pollutants for which “reasonable potential” was determined?			
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?			
6. For all final WQBELs, are BOTH long-term AND short-term effluent limits established?			
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?			
8. Does the record indicate that an “antidegradation” review was performed in accordance with the State’s approved antidegradation policy?			

II.E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters and other monitoring as required by State and Federal regulations?			
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?			
3. Does the permit require at least annual influent monitoring for BOD (or BOD alternative) and TSS to assess compliance with applicable percent removal requirements?			
4. Does the permit require testing for Whole Effluent Toxicity?			

II.F. Special Conditions	Yes	No	N/A
1. Does the permit include appropriate biosolids use/disposal requirements?			
2. Does the permit include appropriate storm water program requirements?			

NA

II.F. Special Conditions – cont.

	Yes	No	N/A
3. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			
4. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?			
5. Does the permit allow/authorize discharge of sanitary sewage from points other than the POTW outfall(s) or CSO outfalls [i.e., Sanitary Sewer Overflows (SSOs) or treatment plant bypasses]?			
6. Does the permit authorize discharges from Combined Sewer Overflows (CSOs)?			
a. Does the permit require implementation of the "Nine Minimum Controls"?			
b. Does the permit require development and implementation of a "Long Term Control Plan"?			
c. Does the permit require monitoring and reporting for CSO events?			
7. Does the permit include appropriate Pretreatment Program requirements?			

II.G. Standard Conditions

II.G. Standard Conditions		Yes	No	N/A
1. Does the permit contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?				
List of Standard Conditions – 40 CFR 122.41				
Duty to comply	Property rights	Reporting Requirements		
Duty to reapply	Duty to provide information	Planned change		
Need to halt or reduce activity	Inspections and entry	Anticipated noncompliance		
not a defense	Monitoring and records	Transfers		
Duty to mitigate	Signatory requirement	Monitoring reports		
Proper O & M	Bypass	Compliance schedules		
Permit actions	Upset	24-Hour reporting		
		Other non-compliance		
2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for POTWs regarding notification of new introduction of pollutants and new industrial users [40 CFR 122.42(b)]?				

Part II. NPDES Draft Permit Checklist

Region III NPDES Permit Quality Review Checklist – For Non-Municipals (To be completed and included in the record for all non-POTWs)

II.A. Permit Cover Page/Administration	Yes	No	N/A
1. Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	X		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	X		

II.B. Effluent Limits – General Elements	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	X		
2. Does the fact sheet discuss whether “antibacksliding” provisions were met for any limits that are less stringent than those in the previous NPDES permit?			X

II.C. Technology-Based Effluent Limits (Effluent Guidelines & BPJ)	Yes	No	N/A
1. Is the facility subject to a national effluent limitations guideline (ELG)?		X	
a. If yes, does the record adequately document the categorization process, including an evaluation of whether the facility is a new source or an existing source?			X
b. If no, does the record indicate that a technology-based analysis based on Best Professional Judgement (BPJ) was used for all pollutants of concern discharged at treatable concentrations?		X	
2. For all limits developed based on BPJ, does the record indicate that the limits are consistent with the criteria established at 40 CFR 125.3(d)?			X
3. Does the fact sheet adequately document the calculations used to develop both ELG and /or BPJ technology-based effluent limits?			X
4. For all limits that are based on production or flow, does the record indicate that the calculations are based on a “reasonable measure of ACTUAL production” for the facility (not design)?			X
5. Does the permit contain “tiered” limits that reflect projected increases in production or flow?		X	
a. If yes, does the permit require the facility to notify the permitting authority when alternate levels of production or flow are attained?			X
6. Are technology-based permit limits expressed in appropriate units of measure (e.g., concentration, mass, SU)?			X

II.C. Technology-Based Effluent Limits (Effluent Guidelines & BPJ) – cont.	Yes	No	N/A
7. Are all technology-based limits expressed in terms of both maximum daily, weekly average, and/or monthly average limits?			X
8. Are any final limits less stringent than required by applicable effluent limitations guidelines or BPJ?		X	

II.D. Water Quality-Based Effluent Limits	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	X		
2. Does the record indicate that any WQBELs were derived from a completed and EPA approved TMDL?		X	
3. Does the fact sheet provide effluent characteristics for each outfall?	X		
4. Does the fact sheet document that a “reasonable potential” evaluation was performed?	X		
a. If yes, does the fact sheet indicate that the “reasonable potential” evaluation was performed in accordance with the State’s approved procedures?	X		
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?	X		
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have “reasonable potential”?			X
d. Does the fact sheet indicate that the “reasonable potential” and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations where data are available)?	X		
e. Does the permit contain numeric effluent limits for all pollutants for which “reasonable potential” was determined?			X
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	X		
6. For all final WQBELs, are BOTH long-term (e.g., average monthly) AND short-term (e.g., maximum daily, weekly average, instantaneous) effluent limits established?			X
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?			X
8. Does the fact sheet indicate that an “antidegradation” review was performed in accordance with the State’s approved antidegradation policy?	X		

II.E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters?	X		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			X
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?	X		
3. Does the permit require testing for Whole Effluent Toxicity in accordance with the State's standard practices?		X	

II.F. Special Conditions	Yes	No	N/A
1. Does the permit require development and implementation of a Best Management Practices (BMP) plan or site-specific BMPs?		X	
a. If yes, does the permit adequately incorporate and require compliance with the BMPs?			X
2. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			X
3. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?	X		

II.G. Standard Conditions	Yes	No	N/A
1. Does the permit contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?	X		
List of Standard Conditions – 40 CFR 122.41			
Duty to comply	Property rights	Reporting Requirements	
Duty to reapply	Duty to provide information	Planned change	
Need to halt or reduce activity	Inspections and entry	Anticipated noncompliance	
not a defense	Monitoring and records	Transfers	
Duty to mitigate	Signatory requirement	Monitoring reports	
Proper O & M	Bypass	Compliance schedules	
Permit actions	Upset	24-Hour reporting	
		Other non-compliance	
2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for existing non-municipal dischargers regarding pollutant notification levels [40 CFR 122.42(a)]?	X		

Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	<u>LYNN V. WISE</u>
Title	<u>ENVIRONMENTAL ENGINEER, SR.</u>
Signature	<u><i>Lynn V. Wise</i></u>
Date	<u>5/24/11</u>

8. Permit Characterization:

(X) Private () Federal () State () POTW
 () Possible Interstate Effect () Interim Limits in Other Document (attach to Fact Sheet)

9. Description of Facility Activities:

Discharge Description

OUTFALL NUMBER	DISCHARGE SOURCE	TREATMENT	FLOW
001	Once-through Non-contact cooling water; Storm water	None	0.732 MGD*
002	Once-through Non-contact cooling water	None	0.679 MGD*
003, 004, 005, 006, 007	Storm water associated with industrial activity	Best Management Practices	NA

* Maximum daily flow reported on Form 2E

See **Attachment A** for a site map showing the facility, outfalls and storm water drainage areas.

The CPFilms facility consists of two plants (#1 and #2) engaged in the enhancement of polyester films through processes including dyeing, metallizing, and sputtering. Cooling water is needed in these processes and is provided either by a closed-loop chiller system or a once-through non-contact cooling system using water from the Smith River. The closed-loop system is the normal mode of cooling, but river water is used in emergency situations or when the closed-loop system is down for maintenance. Water can be pumped from the river at a rate of 3000 gallons per minute with a maximum daily use of just over two million gallons per day. Approximately two-thirds of the water is routed to plant #1 and is discharged to the Smith River from outfall 001. The remaining water is used at plant #2 and is discharged through outfall 002 to the Smith River. The intake water is screened to catch debris, which is periodically blown back into the river.

All process wastewater is directed to one of two pretreatment lagoons operated in series. (All sanitary sewage is directed to the lagoon at Plant #1.) The wastewater is then treated through an on-site treatment plant prior to discharge to the Henry County collection system, which discharges to the City of Martinsville STP for treatment. Sludge is dried on drying beds, removed to a dumpster and disposed of by an outside contractor.

Storm water is discharged through six point sources on the site. Outfall 001 receives some runoff from drop inlets in a grassy area outside of plant #1. (A loading dock is also located within this drainage area.) In addition, five "storm water only" outfalls were identified.

The majority of the remaining storm water from plant #1 is discharged through Outfall 003 to an unnamed tributary of the Smith River. Some storage of scrap metal and wooden palettes occurs in this drainage area which is mostly grassy with some asphalt parking area. A propane tank is also located within this storage area. Storm water runoff from around the WWTP (used for pretreatment) is diverted back into the treatment system.

9. Description of Facility Activities (continued):

Outfall 007 drains approximately 15,000 square feet of impervious (paved) surface from Plant 1. The outfall discharges to an unnamed tributary of the Smith River just downstream of Outfall 003.

The remaining three sources of storm water drain from plant #2. Outfall 005 receives the majority of the storm water "associated with industrial activity" at plant #2. There is some storage of scrap metals and raw materials including stainless steel and aluminum. There are also wooden pallets stored in this drainage area. Drum storage is under cover with concrete berms to retain any spills. The tank farm (consisting of ethylene glycol, N-methyl pyrrolidone, and a mixture of the two) is exposed to storm water but is diked with a three-foot concrete wall. A synthetic liner was placed within the concrete wall and the area is also enclosed with an earthen berm. Piping is in place to route any spills or contaminated storm water to the pretreatment lagoons. A propane tank is also located within this drainage area.

Outfall 006 drains a grassy field. Outfall 004 drains the main parking area as well as some grassy areas. By definition, the storm water discharged through outfall 006 is not considered to be "associated with industrial activity".

10. Sewage Sludge Use or Disposal: Provide a description of sewage sludge land application plan elements addressed in permit, if applicable.

Not applicable. No sewage sludge from the facility is land applied.

11. Discharge(s) Location Description:

The facility is located on the Martinsville West, VA Quadrangle. (Please see **Attachment A**.)

Outfall 001 location: Latitude 36°43'38" Longitude 79°56'55"

Outfall 002 location: Latitude 36°43'42" Longitude 79°57'03"

12. Material Storage:

As can be seen on the site map, there are numerous above ground storage tanks onsite. The majority of the tanks is contained within a concrete diked area with a synthetic liner further enclosed with an earthen berm and/or is under roof. Piping is in place to route any spills or contaminated storm water to the pretreatment lagoons. There is some storage of wooden pallets, scrap metals and raw materials including stainless steel and aluminum. Structural (dikes, berms, swales, ditches, and underground conveyances) and non-structural (personnel training, good housekeeping, routine inspections, and Spill Prevention, Control, and Countermeasure Plan) measures are in place to reduce pollutants in storm water run-off.

Fertilizers and lime are applied to the facility grounds periodically and the herbicide "Round-Up" is used as needed for weed control in asphalt and concrete areas.

Please see **Attachment A** for a site map showing location of storage tanks and a corresponding listing of quantities of materials stored.

13. Ambient Water Quality Information:

Non-contact cooling water from the site discharges through Outfalls 001 and 002 to the Smith River at river mile 35.29 and 35.45, respectively. Storm water is also discharged to the Smith River and an unnamed tributary to the Smith River. These receiving streams are classified as Class VI (Natural Trout) waters with a special standard designation as a Public Water Supply (PWS). Flow frequencies for the Smith River were determined using the continuous record gauge on the Smith River at Bassett, VA (#02072500) and proportional drainage areas. CPFilms operates a surface water intake at river mile 35.41. Please see the Flow Frequency Determination memo in **Attachment B** for further details.

The nearest ambient water quality monitoring station is located downstream on the Smith River at river mile 33.19 (4ASRE033.19) with the nearest upstream station located at river mile 43.54 (4ASRE043.54). Summaries of the data are tabulated in **Attachment B**. The 2010 303(d) report lists this segment of the Smith River (from the mouth of Blackberry Creek downstream to the backwaters of the Martinsville power pool) for a bacteria impairment; recreation use is not supported. Sources of the impairment include: municipal (urbanized high density area), unspecified domestic waste, wet weather discharges (non-point source, point source and combinations of storm water, SSO or CSO). A copy of the pertinent section of the 2010 Impaired Waters Fact Sheet can be found in **Attachment B**.

The permittee reported there were no significant spills or leaks at the facility during the past three years. (See Form 2F.)

14. Antidegradation Review & Comments:

Tier: I _____ II XX _____ III _____

The State Water Control Board's Water Quality Standards includes an antidegradation policy (9 VAC 25-260-30). All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The antidegradation review begins with the Tier determination. Public water supplies and trout streams are assumed to be Tier 2 unless information is available to indicate otherwise. As was previously noted, this segment of the Smith River is classified as both a public water supply and a natural trout water. Although the stream segment has been listed on the 303(d) list for bacteria impairment, agency guidance states that non-attainment of the bacteria criteria will not be used to establish the tier category of a water unless there is clear and convincing evidence that the elevated bacteria numbers are due to inadequately disinfected human waste. Therefore, this segment of the Smith River is determined to be a Tier 2 water body.

Since the quality of Tier 2 waters is better than required by the standards, no significant degradation of the existing quality will be allowed. For purposes of aquatic life protection, "significant degradation" means that no more than 25% the difference between the acute and chronic aquatic criteria values and the existing quality (unused assimilative capacity) may be allocated. For purposes of human health protection, "significant degradation" means that no more than 10% of the difference between the human health criteria and the existing quality (unused assimilative capacity) may be allocated. The significant degradation baseline (antidegradation baseline) for aquatic life protection is calculated for each pollutant as follows:

14. Antidegradation Review & Comments (continued):

0.25 (WQS - existing quality) + existing quality = Antidegradation baseline

The antidegradation baseline for human health protection is calculated for each pollutant as follows:

0.10 (WQS - existing quality) + existing quality = Antidegradation baseline

The “antidegradation baselines” become the new water quality criteria in Tier 2 waters and effluent limits for future expansions or new facilities must be written to maintain the antidegradation baselines for each pollutant.

Effluent limitations are discussed in detail in Section 16 below. The discharge is in compliance with antidegradation requirements set forth in the Water Quality Standard Regulation, 9 VAC 25-260-30. The antidegradation review was conducted as described in Guidance Memorandum 00-2011, dated August 24, 2000, and complies with the antidegradation policy contained in Virginia’s Water Quality Standards.

15. Site Visit: Date September 16, 2010 Performed by: Troy Nipper
A Technical Inspection was conducted on September 16, 2010, by Troy Nipper, Environmental Inspector. A copy of the report is on file at the DEQ Blue Ridge Regional Office in Roanoke.

16. Effluent Screening & Limitation Development:

This facility qualifies as a minor industrial with standard limits for non-contact cooling water discharges. A review of the DMR data for the past five years indicates the facility is in compliance with the current limitations. The limitations from the previous permit were reviewed and carried forward as appropriate. Effluent screening and limitation development documentation may be found in **Attachment C**.

Storm water discharges from the facility are regulated as “storm water associated with industrial activity”. Evaluation of storm water management requirements is discussed below.

Outfall 001

This discharge consists of non-contact cooling water and some of the storm water originating from plant #1. Water is pumped from the Smith River, passed through various non-contact cooling operations, and is discharged back to the river. Standard limitations for non-contact cooling water include temperature and pH. The segment of the receiving stream is considered to be natural trout water (class VI) with a maximum temperature limit of 20°C. In addition, in accordance with VR680-21-01.6, the rise above natural temperature shall not exceed 1°C. The standard pH limitations apply (6.0 - 9.0).

Toxics – During a previous permit reissuance process, effluent data for toxic parameters were evaluated for the reasonable potential to cause or contribute to violations of the Water Quality Standards adopted by the Board. None of the parameters were detected at levels above the quantification level specified by the permit. Therefore no limitations were needed. There have been no significant changes in the operations of the plant since that analysis.

16. Effluent Screening & Limitation Development (continued):

Outfall 002

The discharge from this outfall consists entirely of non-contact cooling water from plant #2. As with outfall 001, the temperature and pH limitations are based upon the requirements for natural trout waters. The maximum temperature limit of 20°C, the maximum rise above natural temperature of 1°C, and the standard pH limitations of 6.0 - 9.0 apply.

Toxics – During the last permit reissuance process, effluent data for toxic parameters were evaluated for the reasonable potential to cause or contribute to violations of the Water Quality Standards adopted by the Board. None of the parameters were detected at levels above the quantification level specified by the permit. Therefore no limitations were needed. There have been no significant changes in the operations of the plant since that analysis.

Basis for Effluent Limitations – Outfalls 001 and 002

PARAMETER	BASIS
Flow	NA – monitoring only
Temperature, Instream Temperature Rise, pH	2, 3-Agency Standard Limitations

1. Federal Effluent guidelines – cite CFR
2. Water Quality-based Limits: - show calculations or cite WQM plan reference
3. Best Engineering Judgement: - provide narrative rationale
4. Best Professional Judgement: - provide narrative rationale
5. Other (e.g. wasteload allocation model): - specify & document with model output or WLA from TMDL or basin plan

STORMWATER (Outfalls 001, 003, 004, 005, 006, and 007)

Storm water is discharged from this site through six outfalls. In accordance with the VPDES Permit Regulation (9 VAC 25-31-10 et seq.), storm water run-off from this site is regulated as storm water associated with industrial activity. All permits that authorize storm water discharges associated with industrial activity must include storm water management provisions. The five components of the storm water management provisions are: effluent limitations and compliance monitoring, analytical monitoring, storm water management evaluation, general storm water special conditions, and general and sector-specific storm water pollution prevention plan (SWPPP) conditions.

Based upon the Standard Industrial Classification (SIC) code of this facility, the storm water discharges are regulated under the “Paper and Allied Products” sector (Converted Paper and Paperboard Products, Except Containers and Boxes subcategory). EPA Effluent Guidelines do not apply to this sector. Therefore, effluent limitations and compliance monitoring are not required. Similarly, there is no prescribed analytical monitoring for these facilities because, due to the nature of the industrial activity or materials stored on site, they do not have significant potential to contribute pollutants to their storm water discharges.

The need for a storm water management evaluation is determined by comparing available storm water data to the screening criteria. Screening criteria are established at two times the acute water quality criteria in the Water Quality Standards regulation. Storm water data for water quality standards parameters are not available for these discharges because no storm event monitoring is required by the

16. Effluent Screening & Limitation Development (continued):

permit. Therefore, storm water management evaluation requirements are not being implemented at this time. It is noted that the permittee did not complete the data requirements for EPA Form 2F for the permit application. Collection of this data will be required during the first year of this permit term.

The final two components of the storm water management provisions are the general storm water conditions, and the general and sector-specific storm water pollution prevention plan conditions. These will be addressed under the special conditions of the permit and Section 19 of this Fact Sheet.

17. Antibacksliding Statement:

All limitations are at least as stringent as the previous permit. The permit is in compliance with the antibacksliding policy.

18. Compliance Schedules: None

19. Special Conditions:

a. **Notification Levels**

Rationale: Required by VPDES Permit Regulation, 9 VAC 25-31-200 A for all manufacturing, commercial, mining, and silvicultural dischargers.

b. **Materials Handling/Storage**

Rationale: 9 VAC 25-31-50 A prohibits the discharge of any wastes into State waters unless authorized by permit. Code of Virginia § 62.1-44.16 and 62.1-44.17 authorizes the Board to regulate the discharge of industrial waste or other waste.

c. **Temperature Monitoring**

Rationale: State Water Control Law § 62.1-44.21 authorizes the Board to request information needed to determine the discharge's impact on State waters. This special condition provides specific information regarding the measurement of temperature in the Smith River that must be reported on the Discharge Monitoring Report (DMR) each month.

d. **Groundwater Monitoring**

Rationale: State Water Control Law § 62.1-44.21 authorizes the Board to request information needed to determine the discharge's impact on State waters. The facility has been performing annual monitoring to assess the influence of the pretreatment lagoons on the groundwater. In addition, a risk assessment was completed in 1996, which identified the receptor to be the Smith River and concluded that the leaking lagoon did not present an appreciable risk to human health or the environment. While DEQ staff agreed with this conclusion, it was recommended that the permittee continue monitoring and consider taking action to reduce the source of pollutants.

e. **Sampling to Fulfill Form 2F Requirements**

Rationale: In some cases, applicants may not have been able to comply with the Form 2F storm water sampling requirements due to the lack of a representative storm event. This special condition requires the permittee to sample and submit data from a storm event to fulfill the requirements of Form 2F.

19. Special Conditions (continued):

f. **TMDL Reopener**

Rationale: Section 303(d) of the Clean Water Act requires that Total Maximum Daily Loads (TMDLs) be developed for streams listed as impaired. This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL approved for the receiving stream. The re-opener recognizes that, according to Section 402(o)(1) of the Clean Water Act, limits and/or conditions may be either more or less stringent than those contained in this permit. Specifically, they can be relaxed if they are the result of a TMDL, basin plan, or other wasteload allocation prepared under section 303 of the Act.

g. **Storm Water Management**

Rationale: VPDES Permit Regulation, 9 VAC 25-31-10 defines discharges of storm water from industrial activity in 9 industrial categories. 9 VAC 25-31-120 requires a permit for these discharges. The Storm Water Pollution Prevention Plan requirements of the permit are derived from the VPDES general permit for discharges of storm water associated with industrial activity, 9 VAC 25-151-10 et seq. VPDES Permit Regulation, 9 VAC 25-31-220 K, requires use of best management practices where applicable to control or abate the discharge of pollutants when numeric effluent limits are infeasible or the practices are necessary to achieve effluent limit or to carry out the purpose and intent of the Clean Water Act and State Water Control Law.

The storm water management requirements of the permit are divided into three sections: General Storm Water Special Conditions, General Storm Water Pollution Prevention Plan Requirements, and Sector-Specific Storm Water Pollution Prevention Plan Requirements. For facilities with an SIC Code of 2672, there are no sector-specific requirements and only the general requirements are included.

h. **Part II, Conditions Applicable to All Permits**

Rationale: VPDES Permit Regulation, 9 VAC 25-31-190 requires all VPDES permits to contain or specifically cite the conditions listed.

20. NPDES Permit Rating Work Sheet: Total Score 0

Please see **Attachment A** for completed rating work sheet. There have been no changes since the last permit reissuance.

21. Changes to Permit:

Changes in Effluent Monitoring/Limitations:

Outfall No.	Parameter Changed	Monitoring Requirement Changed		Effluent Limits Changed		Reason	Date
		From	To	From	To		
001, 002	Temperature Rise	NA	NA	1°	1.0°	to include appropriate number of significant digits	4/18/11

21. Changes to Permit (continued):

Changes to Special Conditions:

1. Added TMDL Reopener – allows the permit to be reopened to bring it into compliance with any approved TMDL for the receiving stream
2. Updated storm water language to reflect current guidance and conform to the VPDES permit manual

22. Variances/Alternate Limits or Conditions:

The permittee requested and was granted a permit application (Form 2E) testing waiver for BOD₅, TSS, and ammonia at outfalls 001 and 002. These materials are not of substantial concern in once through non-contact cooling water.

Reduced Monitoring - Although a reduction in monitoring frequency for pH and temperature may be considered on a case-by-case basis, a reduction is not being proposed for this facility. This is primarily due to the fact that the facility discharges cooling water into a stream that is classified as natural trout waters. It is believed the current monitoring frequency is justified to ensure the temperature standards are being maintained.

23. Public Notice Information required by 9 VAC 25-31-280 B:

All pertinent information is on file and may be inspected or copied by contacting Lynn V. Wise at:

Virginia DEQ, Blue Ridge Regional Office
3019 Peters Creek Road,
Roanoke, VA 24019
Telephone No. (540) 562-6787
E-mail lynn.wise@deq.virginia.gov

Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer and of all persons represented by the commenter/requester, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit. Requests for public hearings shall state 1) the reason why a hearing is requested; 2) a brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit; and 3) specific references, where possible, to terms and conditions of the permit with suggested revisions. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given. The public may review the draft permit and application at the DEQ Blue Ridge Regional Office by appointment.

24. Additional Comments:

Previous Board Action: None.

Staff Comments:

A screening for Threatened and Endangered (T&E) Species in the vicinity of the CPFilms facility was performed and a T&E Species Coordination Form package was submitted to the Department of Game and Inland Fisheries, the Department of Conservation and Recreation, and the United States Fish & Wildlife Service. The purpose of the screening is to assure that mixing zones do not impact listed species. The Federally endangered, State endangered (FESE) Roanoke logperch is known to be found in this area. The cooling water discharges are required to meet the in-stream temperature standards at the end-of-pipe. Since no mixing zones are allowed and the effluent limitations contained in this permit will maintain the Water Quality Standards of 9 VAC 25-260-00 et seq., no adverse impacts to this species is expected. Further documentation of the T&E species review can be found in the Agency's files at the Regional Office.

The U.S. Fish and Wildlife Service requested that the following information be relayed to the permittee:

“Due to the fact that the federally endangered Roanoke logperch (*Percina rex*) occurs in the vicinity of the facility discharge points, please remind the permittee to follow the label instructions for *Round-Up* as the surfactant in *Round-Up* can be toxic to aquatic organisms. (The reminder to follow all labelling instructions would apply to any pesticides the facility would use.)

Regarding the water intake structure, please provide the following information to the VPDES permittee:

In order to prevent entrainment and impingement of eggs, larval and post-larval fish, the Service recommends utilizing water intake screen slot openings no greater than 1.0 millimeter and an intake velocity not to exceed 0.25 feet per second. These and other recommendations for intake structures are found in Gowan and Garman (2002) in *Design criteria for fish screens in virginia: recommendations based on a review of the literature* which can be accessed at: http://www.vwrrc.vt.edu/pdfs/proceedings/2002WaterResearchSymposium_proceedings.pdf#page=136

For more information concerning the intake structure and the federally endangered Roanoke logperch which occurs in the vicinity of the water intake, the permittee may contact Tylan Dean of this office at 804 693-6694, extension 166 or by email at: tylan_dean@fws.gov.

Species information and other information regarding project reviews within Virginia are available at http://www.fws.gov/northeast/virginiafield/endspecies/project_reviews.html.”

The discharge is not controversial and is currently meeting the required effluent limitations.

Public Comment:

No comments were received.

25. 303(d) Listed Segments (TMDL):

This facility discharges directly to the Smith River. The stream segment receiving the effluent is listed as impaired for bacteria on the current 303(d) list. EPA approved the Bacteria TMDL for the Dan River Watershed (including the Dan River, Blackberry Creek, Byrds Branch, Double Creek, Fall Creek, Leatherwood Creek, Marrowbone Creek, North Fork Mayo River, South Fork Mayo River, Smith River, Sandy Creek, and Sandy River Watersheds) on December 8, 2008. It does not contain a wasteload allocation (WLA) for this discharge. No limit for bacteria is included because the effluent does not contain bacteria.

ATTACHMENT A

GENERAL FACILITY INFORMATION

1. Site Map w/Storm Water
Drainage Areas
2. Significant Materials Stored
3. Location Topographic Map
4. NPDES Permit Rating Worksheet

ATTACHMENT TO FORM 2F

CPFilms, Incorporated

Fieldale, Virginia

IV.B. Narrative Description of Pollutant Sources**Outfall 001 (Plant 1)**

- This drainage basin is almost exclusively runoff from a paved parking lot.

Outfall 003 (Plant 2)

- The storm and roof drains located around the facility discharge to this Outfall.
- Raw materials are either stored and handled under a roof or inside the building.
- One tank farm is exposed to stormwater, but this area is diked with a three-foot concrete retaining wall and bermed with earthen material as a secondary containment. This area also has a liner in place for tertiary containment.
- One diked 3,000 gallon emergency dump tank can store Thermal 55.
- The lagoon is sloped to catch stormwater before it can reach the Outfall.
- All solid domestic waste is kept in dumpsters and is removed three times a week by a refuse company.

Outfall 004 (Plant 2)

- The drainage area for this Outfall:
 - Does not contain any industrial processes
 - Includes the front parking lot to the plant and the guard house, and the grassy areas between the parking lot and the guard house

Outfall 005 (Plant 1)

- The storm and roof drains located around the facility, in the landscaping and parking areas, discharge to this Outfall.
- Fertilizers and lime are applied to the facility grounds periodically and the herbicide, "Round-up" is used on an as needed basis for weed control in asphalt and concrete areas.
- All chemicals used for processing are stored inside the main building.
- Stormwater comes into contact with the sludge beds at the WWTP but does not run onto the property

Outfall 006 (Plant 2)

- This Outfall is not monitored because:
 - Discharge to this Outfall does not come into contact with industrial process.
 - The topography includes a grassy field that receives no fertilizers or herbicides.

Outfall 007 (Plant 1)

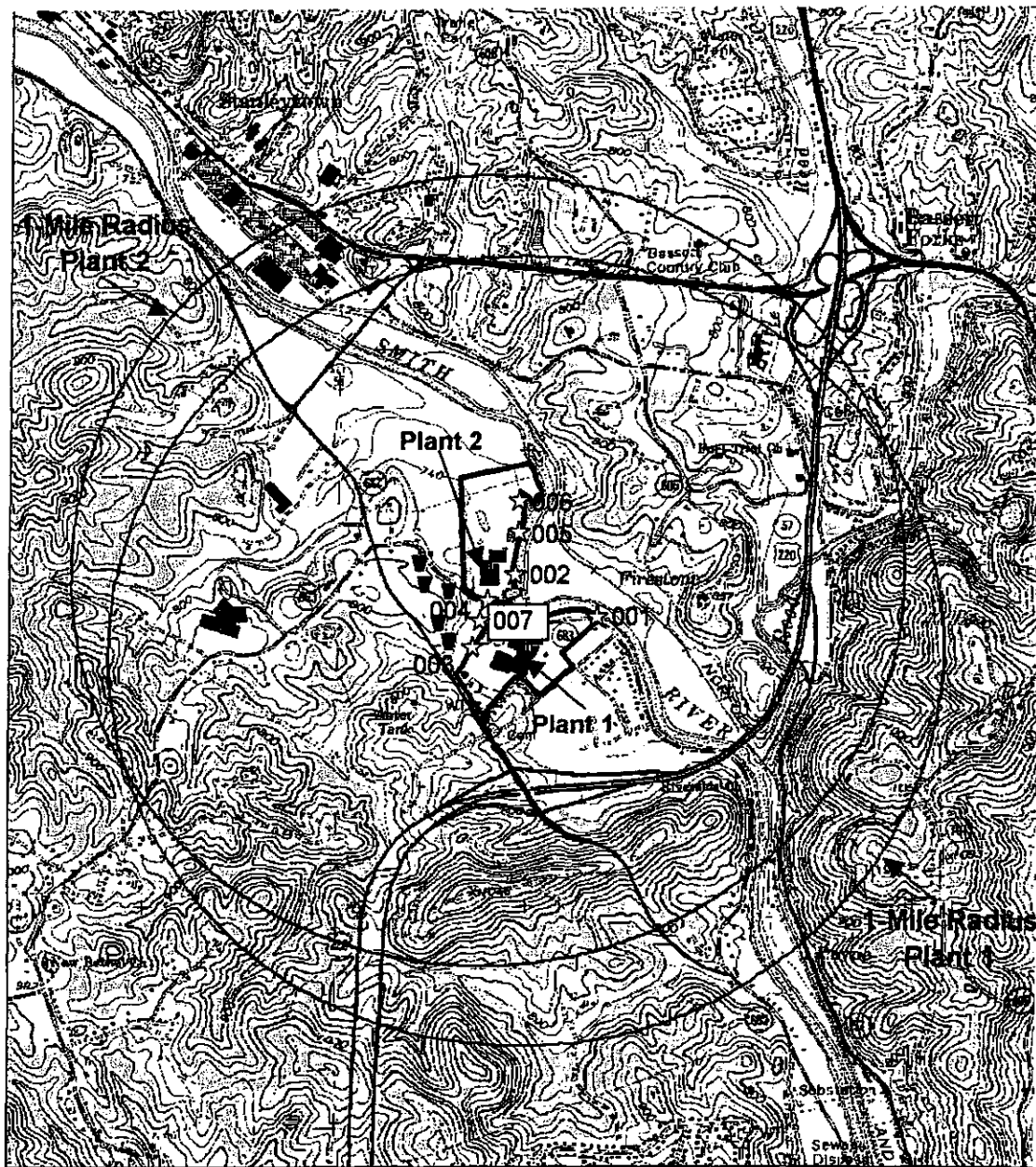
- This drainage basin is almost exclusively runoff from a paved parking lot.

IV.C. Structural Control Measures**Plant 1**

Potential pollutants are reduced by vegetative ground cover. Areas around the WWTP are bermed such that runoff is diverted to the WWTP and not the stormwater outfall. Storm and roof drains are located around the facility and discharge to 003.

Plant 2

Potential pollutants are reduced by vegetative ground cover and natural topography. Stormwater runoff is diverted to the respective outfalls using berms and concrete curbing. The tank farm area has tertiary containment.



☆ Outfall

 Facility Boundary

 Drinking Water Well

 **Water Intake**

CPFilms, Inc.
Fieldale, Virginia

Oliver Incorporated
Job Number 11967.16

Revised 18-Mar-02
March 1, 2000

NPDES Permit Rating Work Sheet

- ☐ Regular Addition
- ☐ Discretionary Addition
- ☐ Score change, but no status change
- ☐ Deletion

NPDES No.: VIA0072354

Facility Name:

COURTAULDS PERFORMANCE FILMS

City: FIELDALE

Receiving Water: SMITH RIVER & SMITH RIVER/UT

Reach Number:

Is this facility a steam electric power plant (SIC=4911) with one or more of the following characteristics?

1. Power output 500 MW or greater (not using a cooling pond/lake)
2. A nuclear power plant
3. Cooling water discharge greater than 25% of the receiving stream's 7Q10 flow rate

☐ YES; score is 600 (stop here) ☒ NO (continue)

Is this permit for a municipal separate storm sewer serving a population greater than 100,000?

- ☐ YES; score is 700 (stop here)
☒ NO (continue)

FACTOR 1: Toxic Pollutant Potential

PCS SIC Code: Primary SIC Code: 2671

Other SIC Codes:

Industrial Subcategory Code: 010101 (Code 000 if no subcategory)

Determine the Toxicity potential from Appendix A. Be sure to use the TOTAL toxicity potential column and check one)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
<input checked="" type="checkbox"/> No process waste streams	0	0	<input type="checkbox"/> 3.	3	15	<input type="checkbox"/> 7.	7	35
<input type="checkbox"/> 1.	1	5	<input type="checkbox"/> 4.	4	20	<input type="checkbox"/> 8.	8	40
<input type="checkbox"/> 2.	2	10	<input type="checkbox"/> 5.	5	25	<input type="checkbox"/> 9.	9	45
			<input type="checkbox"/> 6.	6	30	<input type="checkbox"/> 10.	10	50

Code Number Checked: 0

Total Points Factor 1: 0

FACTOR 2: Flow/Stream Flow Volume (Complete either Section A or Section B; check only one)

Section A—Wastewater Flow Only Considered

Wastewater Type (See Instructions)	Code	Points
Type I: Flow < 5 MGD	<input type="checkbox"/> 11	0
Flow 5 to 10 MGD	<input type="checkbox"/> 12	10
Flow > 10 to 50 MGD	<input type="checkbox"/> 13	20
Flow > 50 MGD	<input type="checkbox"/> 14	30
Type II: Flow < 1 MGD	<input type="checkbox"/> 21	10
Flow 1 to 5 MGD	<input type="checkbox"/> 22	20
Flow > 5 to 10 MGD	<input type="checkbox"/> 23	30
Flow > 10 MGD	<input type="checkbox"/> 24	50
Type III: Flow < 1 MGD	<input type="checkbox"/> 31	0
Flow 1 to 5 MGD	<input type="checkbox"/> 32	10
Flow > 5 to 10 MGD	<input type="checkbox"/> 33	20
Flow > 10 MGD	<input type="checkbox"/> 34	30

Section B—Wastewater and Stream Flow Considered

Wastewater Type (See Instructions)	Percent of Instream Wastewater Concentration at Receiving Stream Low Flow	Code	Points
TYPE I/III:	< 10%	<input checked="" type="checkbox"/> 41	0
	≥ 10% to < 50%	<input type="checkbox"/> 42	10
	≥ 50%	<input type="checkbox"/> 43	20
Type II:	< 10%	<input type="checkbox"/> 51	0
	≥ 10% to < 50%	<input type="checkbox"/> 52	20
	≥ 50%	<input type="checkbox"/> 53	30

Code Checked from Section A or B: 41

Total Points Factor 2: 0

NPDES Permit Rating Worksheet

FACTOR 3: Conventional Pollutants (only when limited by the permit)

NPDES No. VIA 0072354

A. Oxygen Demanding Pollutant: (check one)

☐ BOD

☐ COD

☐ Other: N/A

Permit Limits: (check one)

☐

<100 lbs/day

Code Points

1

0

☐

100 to 1000 lbs/day

2

5

☐

>1000 to 3000 lbs/day

3

15

☐

>3000 lbs/day

4

20

Code Checked: ☐

Points Scored: ☐

B. Total Suspended Solids (TSS)

N/A

Permit Limits: (check one)

☐

<100 lbs/day

Code Points

1

0

☐

100 to 1000 lbs/day

2

5

☐

>1000 to 5000 lbs/day

3

15

☐

>5000 lbs/day

4

20

Code Checked: ☐

Points Scored: ☐

C. Nitrogen Pollutant: (check one)

☐ Ammonia

☐ Other: N/A

Permit Limits: (check one)

☐

Nitrogen Equivalent

Code Points

1

0

☐

<300 lbs/day

2

5

☐

300 to 1000 lbs/day

3

15

☐

>1000 to 3000 lbs/day

4

20

Code Checked: ☐

Points Scored: ☐

Total Points Factor 3: 0

FACTOR 4: Public Health Impact

Is there a public drinking water supply located within 50 miles downstream of the effluent discharge (this includes any body of water to which the receiving water is a tributary)? A public drinking water supply may include infiltration galleries, or other methods of conveyance that ultimately get water from the above referenced supply.

☐ YES (If yes, check toxicity potential number below)

☐ NO (If no, go to Factor 5)

Determine the human health toxicity potential from Appendix A. Use the same SIC code and subcategory reference as in Factor 1. (Be sure to use the human health toxicity group column — check one below)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
<input checked="" type="checkbox"/> No process waste streams	0	0	<input type="checkbox"/> 3.	3	0	<input type="checkbox"/> 7.	7	15
<input type="checkbox"/> 1.	1	0	<input type="checkbox"/> 4.	4	0	<input type="checkbox"/> 8.	8	20
<input type="checkbox"/> 2.	2	0	<input type="checkbox"/> 5.	5	5	<input type="checkbox"/> 9.	9	25
			<input type="checkbox"/> 6.	6	10	<input type="checkbox"/> 10.	10	30

Code Number Checked: 0

Total Points Factor 4: 0

FACTOR 5: Water Quality Factor

NPDES No..

A10072354

- A. Is (or will) one or more of the effluent discharge limits based on water quality factors of the receiving stream (rather than technology-based federal effluent guidelines, or technology-based state effluent guidelines), or has a wasteload allocation been assigned to the discharge?

	Code	Points
<input type="checkbox"/> Yes	1	10
<input checked="" type="checkbox"/> No	2	0

- B. Is the receiving water in compliance with applicable water quality standards for pollutants that are water quality limited in the permit?

	Code	Points
<input checked="" type="checkbox"/> Yes	1	0
<input type="checkbox"/> No	2	5

- C. Does the effluent discharged from this facility exhibit the reasonable potential to violate water quality standards due to whole effluent toxicity?

	Code	Points
<input type="checkbox"/> Yes	1	10
<input checked="" type="checkbox"/> No	2	0

Code Number Checked: A 2 B 1 C 2
 Points Factor 5: A 0 + B 0 + C 0 = 0 TOTAL

FACTOR 6: Proximity to Near Coastal Waters

- A. Base Score: Enter flow code here (from Factor 2): 411

Enter the multiplication factor that corresponds to the flow code: 0.01

Check appropriate facility HPRI Code (from PCS):

	HPRI #	Code	HPRI Score
<input type="checkbox"/>	1	1	20
<input type="checkbox"/>	2	2	0
<input type="checkbox"/>	3	3	30
<input type="checkbox"/>	4	4	0
<input type="checkbox"/>	5	5	20

HPRI code checked: 1/1/4

Flow Code	Multiplication Factor
11, 31, or 41	0.00
12, 32, or 42	0.05
13, 33, or 43	0.10
14 or 34	0.15
21 or 51	0.10
22 or 52	0.30
23 or 53	0.60
24	1.00

Base Score: (HPRI Score) 0 x (Multiplication Factor) 0 = 0 (TOTAL POINTS)

- B. Additional Points — NEP Program

For a facility that has an HPRI code of 3, does the facility discharge to one of the estuaries enrolled in the National Estuary Protection (NEP) program (see Instructions) or the Chesapeake Bay?

	Code	Points
<input type="checkbox"/> Yes	1	10
<input checked="" type="checkbox"/> No	2	0

- C. Additional Points — Great Lakes Area of Concern

For a facility that has an HPRI code of 5, does the facility discharge any of the pollutants of concern into one of the Great Lakes' 31 areas of concern (see Instructions)

	Code	Points
<input type="checkbox"/> Yes	1	10
<input checked="" type="checkbox"/> No	2	0

Code Number Checked: A 1 B 1 C 1
 Points Factor 6: A 0 + B 0 + C 0 = 0 TOTAL

SCORE SUMMARY

NPDES No

1A0101712354

Factor	Description	Total Points
1	Toxic Pollutant Potential	0
2	Flow/Streamflow Volume	0
3	Conventional Pollutants	0
4	Public Health Impacts	0
5	Water Quality Factors	0
6	Proximity to Near Coastal Waters	0
TOTAL (Factors 1 through 6)		0

S1. Is the total score equal to or greater than 80?

☐ Yes (Facility is a major)

☒ No

S2. If the answer to the above question is no, would you like this facility to be discretionary major?

☒ No

☐ Yes (Add 500 points to the above score and provide reason below:

Reason: _____

NEW SCORE:

0

OLD SCORE:

0

No changes from
old score

12/19/00

LRW

1/18/06

LRW

10/27/10
LRW

Lynn V. Wise

Permit Reviewer's Name

(703) 562-3666

Phone Number

5/2/95

Date

ATTACHMENT B

RECEIVING STREAM INFORMATION

1. Flow Frequency Memo
2. 4ASRE033.19 Ambient Data
3. 4ASRE043.54 Ambient Data
4. 2004 Use Attainment by
Assessment Units Report

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY Blue Ridge Regional Office, Water Division

3019 Peters Creek Road

Roanoke, VA 24019

SUBJECT: Flow Frequency Determination
CPFilms, Incorporated – VPDES Permit No. VA0072354

TO: File

FROM: Lynn V. Wise, ^{LV}Environmental Engineer, Sr.

DATE: October 27, 2010

COPIES:

CPFilms, Inc., discharges via eight outfalls (two non-contact cooling water, six storm water) to the Smith River and its tributaries near Fieldale, VA. Stream flow frequencies are required at these sites for the purpose of calculating effluent limitations for the VPDES permit.

Outfalls 001, 002, 005 and 006 are located on the Smith River. Outfall 006 is the upstream-most discharge point and outfalls 005, 002 and 001 follow in downstream order. All four outfalls are in close proximity to one another. The flow frequencies for outfall 006 were determined using the USGS continuous record gauge on the Smith River at Bassett, VA (#02072500). The gauge is located at the Route 666 bridge, in Bassett, VA, and has been in operation since 1939. The Smith River has been regulated by Philpott Dam since 1950; therefore, the period of record from 1951 through 2003 was used. The flow frequencies for the gauge and outfall 006 are presented below. The values at outfall 006 were determined using proportional drainage areas and should be adjusted to account for the volume discharge by the outfalls upstream in order to determine the flow frequencies for outfalls 005, 002 and 001.

Smith River at Bassett, VA (#02072500):

Drainage Area = 259 mi²

1Q10 = 49 cfs	High Flow 1Q10 = 58 cfs
7Q10 = 88 cfs	High Flow 7Q10 = 107 cfs
30Q10 = 101 cfs	High Flow 30Q10 = 116 cfs
30Q5 = 115 cfs	Harmonic Mean = 170 cfs
1Q30 = 45 cfs	

Smith River above Outfall 006:

Drainage Area = 288.44 mi²

1Q10 = 54.5 cfs (35.2 mgd)	High Flow 1Q10 = 64.6 cfs (41.7 mgd)
7Q10 = 98.0 cfs (63.3 mgd)	High Flow 7Q10 = 119.2 cfs (77.0 mgd)
30Q10 = 112.5 cfs (72.7 mgd)	High Flow 30Q10 = 129.2 cfs (83.5 mgd)
30Q5 = 128.1 cfs (82.8 mgd)	Harmonic Mean = 189.3 cfs (122.3 mgd)
1Q30 = 50.11 cfs (32.39 mgd)	

The high flow months for the Smith River are February through June.

Outfalls 003 and 007 discharge to an intermittent stream and outfall 004 discharges to a dry ditch, which flows to the intermittent stream. The flow frequencies for intermittent streams and dry ditches are 0.0 cfs for the 1Q10, 7Q10, 30Q10, 30Q5, high flow 1Q10, high flow 7Q10, high flow 30Q10, and harmonic mean.

Water Shed Code
VAW-L53R

Station ID
4ASRE033.19

Station Description
Rt. 701 BELOW FIELDCREST MILL

Pgc Spc Parameter Code	Name	MIN	MAX	AVG	No. of Samples
00070	TURBIDITY, (JACKSON CANDLE UNITS)	1.3	486	64.83	8
00076	TURBIDITY,HACH TURBIDIMETER (FORMAZIN TURB UNIT)	0.21	400	12.21	102
00080	COLOR (PLATINUM-COBALT UNITS)	13	476	50.44	16
00082	COLOR,SPECTROPHOTO,WATER SMPL AT7.6PH ADMI UNITS	5	198	22.15	106
00083	COLOR,SPECTROPHOTOMETRIC,FIL,WATER SPL ADMI UNITS	0.39	211.57	22.61	107
00095	SPECIFIC CONDUCTANCE (UMHOS/CM @ 25C)	38.9	87	63.28	137
00310	BOD, 5 DAY, 20 DEG C MG/L	1	25	2.07	265
00340	COD, .25N K2CR2O7 MG/L	1	72	7.81	195
00403	PH, LAB, STANDARD UNITS SU	5.48	8.23	6.70	130
00410	ALKALINITY, TOTAL (MG/L AS CACO3)	11.6	41	21.72	128
00500	RESIDUE, TOTAL (MG/L)	38	600	78.57	258
00505	RESIDUE, TOTAL VOLATILE (MG/L)	0	91	25.23	213
00510	RESIDUE, TOTAL FIXED (MG/L)	5	498	52.38	214
00515	RESIDUE, TOTAL FILTRABLE (DRIED AT 105C),MG/L	32	62	48.81	21
00530	RESIDUE, TOTAL NONFILTRABLE (MG/L)	0	490	16.22	355
00535	RESIDUE, VOLATILE NONFILTRABLE (MG/L)	0	72	5.25	310
00540	RESIDUE, FIXED NONFILTRABLE (MG/L)	0	418	13.07	307
00600	NITROGEN, TOTAL (MG/L AS N)	0.22	1.09	0.41	45
00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)	0.01	1.5	0.08	316
00615	NITRITE NITROGEN, TOTAL (MG/L AS N)	0.01	0.09	0.01	316
00620	NITRATE NITROGEN, TOTAL (MG/L AS N)	0.01	0.9	0.14	287
00625	NITROGEN, KJELDAHL, TOTAL, (MG/L AS N)	0.03	2.2	0.27	332
00630	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	0.05	1.3	0.19	29
00665	PHOSPHORUS, TOTAL (MG/L AS P)	0.01	0.4	0.08	283
00671	PHOSPHORUS, DISSOLVED ORTHOPHOSPHATE (MG/L AS P)	0.01	0.21	0.02	111
00680	CARBON, TOTAL ORGANIC (MG/L AS C)	1	36	4.28	200
00900	HARDNESS, TOTAL (MG/L AS CACO3)	9	44.4	22.25	161
00915	CALCIUM, DISSOLVED (MG/L AS CA)	1	4	2.5	2
00925	MAGNESIUM, DISSOLVED (MG/L AS MG)	1	1.8	1.40	2
00940	CHLORIDE,TOTAL IN WATER MG/L	1.2	6.4	3.72	113
00945	SULFATE, TOTAL (MG/L AS SO4)	0.04	7.4	4.62	115
00951	FLUORIDE, TOTAL (MG/L AS F)	0.1	0.5	0.2	14
00955	SILICA, DISSOLVED (MG/L AS SI02)	12.55	19.2	15.63	15
01000	ARSENIC, DISSOLVED (UG/L AS AS)	0.1	0.2	0.15	2
01002	ARSENIC, TOTAL (UG/L AS AS)	1	10	2.43	23
01003	ARSENIC IN BOTTOM DEPOSITS (MG/KG AS AS DRY WGT)	2	10.7	5.2	14
01005	BARIUM, DISSOLVED (UG/L AS BA)	10	10	10	1
01010	BERYLLIUM, DISSOLVED (UG/L AS BE)	0.1	0.1	0.1	2
01012	BERYLLIUM, TOTAL (UG/L AS BE)	1	1	1	1
01013	BERYLLIUM IN BOTTOM DEPOSITS(MG/KG AS BE DRY WGT)	5	5	5	8
01025	CADMIUM, DISSOLVED (UG/L AS CD)	0.1	0.1	0.1	2
01027	CADMIUM, TOTAL (UG/L AS CD)	1	20	7.78	27
01028	CADMIUM,TOTAL IN BOTTOM DEPOSITS (MG/KG,DRY WGT)	0.18	5	3.53	13
01029	CHROMIUM,TOTAL IN BOTTOM DEPOSITS (MG/KG,DRY WGT)	15	66.69	28.54	14
01030	CHROMIUM, DISSOLVED (UG/L AS CR)	0.1	0.1	0.1	2
01034	CHROMIUM, TOTAL (UG/L AS CR)	1	29.99	10.08	37
01040	COPPER, DISSOLVED (UG/L AS CU)	0.1	0.4	0.25	2
01042	COPPER, TOTAL (UG/L AS CU)	10	39.99	12.50	36
01043	COPPER IN BOTTOM DEPOSITS (MG/KG AS CU DRY WGT)	6.6	29	15.75	14
01045	IRON, TOTAL (UG/L AS FE)	199.9	2599	872.87	7
01046	IRON, DISSOLVED (UG/L AS FE)	50	100	75	2
01049	LEAD, DISSOLVED (UG/L AS PB)	0.1	0.1	0.1	2
01051	LEAD, TOTAL (UG/L AS PB)	1	28.99	7.41	34
01052	LEAD IN BOTTOM DEPOSITS (MG/KG AS PB DRY WGT)	5	21.3	10.22	14
01053	MANGANESE IN BOTTOM DEPOSITS (MG/KG AS MN DRY WGT)	119	230	170.33	6
01055	MANGANESE, TOTAL (UG/L AS MN)	27.16	240	91.02	7
01056	MANGANESE, DISSOLVED (UG/L AS MN)	0.1	16	8.05	2
01057	THALLIUM, DISSOLVED (UG/L AS TL)	0.2	0.2	0.2	2
01059	THALLIUM, TOTAL (UG/L AS TL)	1	1	1	1

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Station Description
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Pgc Spc					No. of
Parameter Code	Name	MIN	MAX	AVG	Samples
01065	NICKEL, DISSOLVED (UG/L AS NI)	0.1	100	72.36	17
01067	NICKEL, TOTAL (UG/L AS NI)	10	20	11	10
01068	NICKEL, TOTAL IN BOTTOM DEPOSITS (MG/KG, DRY WGT)	3.33	17	9.69	14
01075	SILVER, DISSOLVED (UG/L AS AG)	0.1	0.1	0.1	2
01078	SILVER IN BOTTOM DEPOSITS (MG/KG AS AG DRY WGT)	5	5	5	8
01090	ZINC, DISSOLVED (UG/L AS ZN)	1	1	1	2
01092	ZINC, TOTAL (UG/L AS ZN)	10	99.99	19.58	37
01093	ZINC IN BOTTOM DEPOSITS (MG/KG AS ZN DRY WGT)	14	60.5	34.92	14
01095	ANTIMONY, DISSOLVED (UG/L AS SB)	0.1	0.1	0.1	2
01098	ANTIMONY IN BOTTOM DEPOSITS (MG/KG AS SB DRY WGT)	5	16	7.17	6
01106	ALUMINUM, DISSOLVED (UG/L AS AL)	0.1	2.1	1.1	2
01108	ALUMINUM IN BOTTOM DEPOSITS (MG/KG AS AL DRY WGT)	2520	11500	6420	6
01145	SELENIUM, DISSOLVED (UG/L AS SE)	0.5	0.5	0.5	2
01147	SELENIUM, TOTAL (UG/L AS SE)	1	20	10.50	2
01148	SELENIUM IN BOTTOM DEPOSITS (MG/KG AS SE DRY WGT)	1	5	1.44	9
01170	IRON IN BOTTOM DEPOSITS (MG/KG AS FE DRY WGT)	10000	22400	15450	6
31505	COLIFORM, TOT, MPN, CONFIRMED TEST, 35C (TUBE 31506)	11000	11000	11000	7
31616	FECAL COLIFORM, MEMBR FILTER, M-FC BROTH, 44.5 C	25	780000	2893	379
31648	E. COLI - MTEC-MF N0/100ML	10	2000	192	57
31649	ENTEROCOCCI- ME-MF N0/100ML	10	690	253	6
32210	CHLOROPHYLL-A UG/L TRICHROMATIC UNCORRECTED	0.5	2.792	1.21	15
32211	CHLOROPHYLL-A UG/L SPECTROPHOTOMETRIC ACID. METH.	0.5	2.14	1.06	15
32212	CHLOROPHYLL-B UG/L TRICHROMATIC UNCORRECTED	0.5	0.5	0.5	15
32214	CHLOROPHYLL-C UG/L TRICHROMATIC UNCORRECTED	0.5	0.5	0.5	15
32218	PHEOPHYTIN-A UG/L SPECTROPHOTOMETRIC ACID. METH.	0.5	0.98	0.54	15
32219	PHEOPHYTIN RATIO(OD 663)/SPECTRO,BEFORE/AFTER ACID	1.455	2.148	1.68	10
32240	TANNIN AND LIGNIN (MG/L)	0	5	0.4	104
34259	DELTA BENZENE HEXACHLORIDE TOTWUG/L	0.1	0.1	0.1	2
34351	ENDOSULFAN SULFATE TOTWUG/L	0.1	0.1	0.1	2
34356	ENDOSULFAN, BETA TOTWUG/L	0.1	0.1	0.1	2
34361	ENDOSULFAN, ALPHA TOTWUG/L	0.1	0.1	0.1	2
34366	ENDRIN ALDEHYDE TOTWUG/L	0.1	0.1	0.1	2
34480	THALLIUM DRY WGTBOTMG/KG	5	5	5	7
34671	PCB - 1016 TOTW UG/L	0.1	0.1	0.1	2
38442	DICAMBA (BANVEL) WATER, DISSUG/L	0.2	0.2	0.2	2
38451	DICHLORPROP WATER, SUSPUG/L	0.2	0.2	0.2	2
38745	2,4-DB WATER, TOTUG/L	0.2	0.2	0.2	2
39032	PCP (PENTACHLOROPHENOL) WHOLE WATER SAMPLE UG/L	0	0.1	0.1	4
39061	PCP (PENTACHLOROPHENOL) IN BOT DEPOS DRY SOL UG/KG	0.01	250	84.30	10
39062	CHLORDANE-CIS ISOMER, WHOLE WATER SAMPL (UG/L)	0	0	0.00	2
39065	CHLORDANE-TRNS ISOMER, WHOLE WATER SAMPL (UG/L)	0	0	0.00	2
39068	CHLORDANE-NONACHLOR, CIS ISO, WHOLE WTR (UG/L)	0	0	0.00	2
39071	CHLORDANE-NONACHLOR, TPANS ISO, WHOLE WTR (UG/L)	0	0	0.00	2
39300	P,P' DDT IN WHOLE WATER SAMPLE (UG/L)	0	0.1	0.05	4
39305	O,P' DDT IN WHOLE WATER SAMPLE (UG/L)	0	0	0.00	2
39310	P,P' DDD IN WHOLE WATER SAMPLE (UG/L)	0	0.1	0.05	4
39315	O,P' DDD IN WHOLE WATER SAMPLE (UG/L)	0	0	0.00	2
39320	P,P' DDE IN WHOLE WATER SAMPLE (UG/L)	0	0.1	0.05	4
39327	ORTHO PARA DDE IN WHOLE WATER SAMPLE (UG/L)	0	0	0.00	2
39330	ALDRIN IN WHOLE WATER SAMPLE (UG/L)	0	0.1	0.06	5
39333	ALDRIN IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOLIDS)	0	100	33	12
39337	ALPHA BENZENE HEXACHLORIDE IN WHOLE WATER SAMP	0.1	0.1	0.1	2
39338	BETA BENZENE HEXACHLORIDE IN WHOLE WATER SAMP	0.1	0.1	0.1	2
39340	GAMMA-BHC(LINDANE), WHOLE WATER, UG/L	0.1	0.1	0.1	2
39350	CHLORDANE(TECH MIX & METABS), WHOLE WATER, UG/L	0	0	0	2
39351	CHLORDANE(TECH MIX&METABS), SEDIMENTS, DRY WGT, UG/KG	1	500	142.80	10
39363	DDD IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOLIDS)	0.1	100	42.41	10
39368	DDE IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOLIDS)	0.1	100	42.51	10
39373	DDT IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOLIDS)	0.1	100	43.01	10

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Station Description
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Pgc Spc Parameter Code	Name	MIN	MAX	AVG	No. of Samples
39380	DIELDRIN IN WHOLE WATER SAMPLE (UG/L)	0	0.1	0.05	4
39383	DIELDRIN IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOL.)	0.1	100	36.81	10
39390	ENDRIN IN WHOLE WATER SAMPLE (UG/L)	0	0.1	0.05	4
39393	ENDRIN IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOLIDS)	0.1	100	56.81	10
39400	TOXAPHENE IN WHOLE WATER SAMPLE (UG/L)	0.1	0.1	0.1	2
39403	TOXAPHENE IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOL.)	1	1000	210	10
39410	HEPTACHLOR IN WHOLE WATER SAMPLE (UG/L)	0.1	0.1	0.1	2
39413	HEPTACHLOR IN BOT. DEP. (UG/KILOGRAM DRY SOLIDS)	0.1	100	26.12	10
39420	HEPTACHLOR EPOXIDE IN WHOLE WATER SAMPLE (UG/L)	0.1	0.1	0.1	2
39480	METHOXYCHLOR IN WHOLE WATER SAMPLE (UG/L)	0	0	0	2
39488	PCB - 1221 IN THE WHOLE WATER SAMPLE UG/L	0.1	0.1	0.1	2
39492	PCB - 1232 PCB SERIES WHOLE WATER SAMPLE UG/L	0.1	0.1	0.1	2
39496	PCB - 1242 PCB SERIES WHOLE WATER SAMPLE UG/L	0.1	0.1	0.1	2
39500	PCB - 1248 PCB SERIES WHOLE WATER SAMPLE UG/L	0.1	0.1	0.1	2
39508	PCB - 1260 PCB SERIES WHOLE WATER SAMPLE UG/L	0.1	0.1	0.1	2
39516	PCBS IN WHOLE WATER SAMPLE (UG/L)	0	0	0	2
39526	PCBS TOTAL,IN SEDIMENT,DRY (ISOMER ANALYSES) UG/KG	1	500	133.80	10
39630	ATRAZINE(AATREX) IN WHOLE WATER SAMPLE (UG/L)	0.5	0.5	0.5	1
39631	ATRAZINE IN BOTTOM DEPOS (UG/KG DRY SOLIDS)	0	0.1	0.03	3
39700	HEXACHLOROBENZENE IN WHOLE WATER SAMPLE (UG/L)	0	0	0	2
39730	2,4-D IN WHOLE WATER SAMPLE (UG/L)	0.2	0.2	0.2	2
39740	2,4,5-T IN WHOLE WATER SAMPLE (UG/L)	0.2	0.2	0.2	2
39760	SILVEX IN WHOLE WATER SAMPLE (UG/L)	0.2	0.2	0.2	2
46570	HARDNESS, CA MG CALCULATED (MG/L AS CaCO3)	19.62	19.62	19.62	1
50091	MERCURY-TL, FILTERED WATER, ULTRATRACE METHOD NG/L	1.5	1.5	1.5	2
70300	RESIDUE, TOTAL FILTRABLE (DRIED AT 180C), MG/L	47	65	53	6
70505	PHOSPHATE, TOTAL, COLORIMETRIC METHOD (MG/L AS P)	0.01	0.4	0.11	76
70507	PHOSPHORUS, IN TOTAL ORTHOPHOSPHATE (MG/L AS P)	0.01	0.21	0.03	205
71900	MERCURY, TOTAL (UG/L AS HG)	0.3	0.5	0.42	34
71921	MERCURY, TOT IN BOT DEPOS (MG/KG AS HG DRY WGT)	0.01	0.5	0.25	13
71994	VOLUME OF WATER FILTERED LITERS	0.3	0.3	0.3	15
74041	STORET STORAGE TRANSACTION DATE YR/MO/DAY	860908	990127	927843	154
75045	HEPTACHLOR EPOXIDE SEDIMENT, DRY, WT, UG/KG	10	100	40.89	9
77825	ALACHLOR WHOLE WATER, UG/L	0.2	0.2	0.2	2
79799	DICOFOL (KELTHANE) SEDIMENT, DRY, WT, UG/KG	70	140	104.78	9
82078	TURBIDITY, FIELD NEPHELOMETRIC TURBIDITY UNITS, NTU	1.3	172	12.24	24
82079	TURBIDITY, LAB NEPHELOMETRIC TURBIDITY UNITS, NTU	1.2	197	13.12	48
DHARD	HARDNESS, CA MG CALCULATED (MG/L AS CaCO3) AS DISSOLVE	1	18	9.5	2

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				Param. Code	00076	00095	00310	00410	00500	00600	00610	00615	00620	00625	00665
				Name	TURBIDITY, HACH TURBIDIMETER (FTU)	SPECIFIC CONDUCTANCE (UMHOS/CM @ 25C)	BOD, 5 DAY, 20 DEG C MG/L	ALKALINITY, TOTAL (MG/L AS CaCO3)	RESIDUE, TOTAL (MG/L)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, AMMONIA, TOTAL (MG/L AS N)	NITRITE NITROGEN, TOTAL (MG/L AS N)	NITRATE NITROGEN, TOTAL (MG/L AS N)	NITROGEN, KJELDAHL, TOTAL, (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
					Value	Value	Value	Com Code	Value	Value	Value	Com Code	Value	Com Code	Value
Collection Date Time	Temp Celsius	Do Probe	Field Ph												
01/09/2001 11:00	3.4	12	7.7		4.700	68.000	2.000 U		24.600	51.000	.040 U	.010 U	.150	.100	.010
02/08/2001 10:30	6.4	11.5	7.7		1.370	70.800	2.000 U		25.400	55.000	.040 U	.020	.110	.200	.010
03/08/2001 11:30	5.5	12.8	8.1		4.950	70.500	2.000 U		28.700	50.000	.040 U	.020	.070	.100	.010
04/09/2001 10:30	13.6	9.6	8.1		4.830	70.300	2.000 U		24.100	53.000	.040 U	.010 U	.090	.300	.020
05/15/2001 11:30	15.1	10	7.7		3.360	67.900	2.000 U		24.900	62.000	.040 U	.010 U	.130	.300	.010
06/12/2001 10:30	13.7	10.8	8.1		2.560	68.000	2.000 U		24.800	61.000	.040 U	.010 U	.140	.200	.020
06/20/2001 09:30															
07/25/2001 14:30	19	9.1	7.6		7.400	68.300			65.000		.040 U	.010 U	.170	.200	.020
09/04/2001 15:00	18.9	8.9	7.6		5.900	70.600			62.000		.040 U	.010 U	.120	.300	.010
09/04/2001 15:01															
09/24/2001 12:30	17.6	7.8	7.8		4.800	69.000			53.000		.040 U	.010	.130	.300	.020
10/24/2001 12:30	12.4	9.6	7.5		3.510	66.000			46.000		.040 U	.010 U	.120	.300	.010
11/29/2001 14:00	12	8.9	7.6		4.500	66.800			59.000		.040 U	.010	.120	.400	.020
12/17/2001 13:30	9.7	9	7.1		6.200	66.800			61.000		.040 U	.010 U	.140	.400	.040
01/10/2002 14:30	8.6	10.1	7.9		4.700	69.100			62.000		.040 U	.010 U	.100	.400	.010
02/26/2002 12:30	8.3	11.4	8		1.800	73.000			48.000		.040 U	.010 U	.080	.200	.010
03/14/2002 14:00	12	13.2	6.9		3.700	71.300			54.000		.040 U	.010 U	.120	.300	.010
04/04/2002 13:00	11.7	11.2	7.2		1.600	77.100			46.000		.040 U	.010 U	.090	.200	.010
05/15/2002 11:00	13.9	9.96	7.79		13.100	73.800			39.000		.040 U	.010	.150		
06/10/2002 11:50	20.4	8.8			3.000	74.000			54.000		.040 U	.010 U	.130	.200	.020
07/16/2002 12:00	20	8.9	8.29		3.100	74.000			51.000		.040 U	.010 U	.090	.200	.020
08/06/2002 09:45	20.9	7.56	8.64		3.100	71.200			48.000		.040 U	.010 U	.100	.200	.020
09/19/2002 13:35	17.4	9	8.45		6.300	69.800			49.000		.040 U	.010 U	.140	.200	.020
10/29/2002 10:45	10.3	10.16	7.45		10.100	72.200			51.000		.040 U	.010 U	.150	.200	.020
11/18/2002 14:30	12.6	11.58	7.25		10.100	71.200			70.000		.040 U	.010 U	.210	.200	.020
12/17/2002 09:30	5.2	12.31	9.02		6.100	75.700			67.000		.040 U	.010 U	.190	.200	.010
02/03/2003 13:30	5.5	11.5	7.9		3.600	66.000			53.000		.040 U	.010 U	.100	.200	.010
02/13/2003 09:00	2.3	11.8	8.5		2.200	76.200			59.000		.040 U	.010 U	.140	.200	.020
03/11/2003 14:00	5.8	11.5	7.4			62.900			65.000		.040 U	.010 U	.120	.200	.010
04/16/2003 09:30	7.2	12	7.3			69.200			58.000		.040 U	.010 U	.140	.200	.010
06/25/2003 10:30	12.9	9.9	8.1			61.700			46.000		.040 U	.010 U	.150	.500	.010
08/21/2003 10:45	19.2	9.3	7						53.000	.340					.010
10/16/2003 10:30	15.6	9.4	7.3						57.000	.220					.010
12/09/2003 10:30	9.2	11.7	7.4						55.000	.280					.010
02/04/2004 10:30	3.8	14.1	7.3						75.000	.580					.030
04/07/2004 10:30	9.8	11.8	7.6						54.000	.330					.030
06/08/2004 11:30	14.8	9.5	7.7						60.000	.350					.020
08/12/2004 11:30	14.9	10	6.9						58.000	.300					.010
10/07/2004 11:00	13.3	10.2	7.7						65.000	.340					.020
12/21/2004 11:00	5.3	12	7.6						64.000	.330					.020

[illegible]

[illegible]

	01145	31616	31648	31649	50091	70300	70507	82079	
	SELENIUM, DISSOLVED (UG/L AS SE)	FECAL COLIFORM, MEMBR FILTER, M-FC BROTH, 44.5 C	E. COLI - MTEC-MF NO/100ML	ENTEROCOCCI- ME- MF NO/100ML	MERCURY- TL, FILTERED WATER, ULTRATRACE METHOD NG/L	RESIDUE, TOTAL, FILTRABLE (DRIED AT 180C), MG/L	PHOSPHORUS, IN TOTAL ORTHOPHOSPHATE (MG/L AS P)	TURBIDITY, LAB NEPHELOMETRIC TURBIDITY UNITS, NTU	
	Value	Com Code	Value	Com Code	Value	Com Code	Value	Com Code	Value
Collection Date Time									
01/09/2001 11:00			100.000 U				.020 U		
02/08/2001 10:30			100.000 U				.020		
03/08/2001 11:30			100.000 U				.030		
04/09/2001 10:30			100.000				.020		
05/15/2001 11:30			100.000 U				.020 U		
06/12/2001 10:30			200.000				.020 U		
06/20/2001 09:30	1.000 U				3.000 U				
07/26/2001 14:30			8000.000 L				.020 U		
09/04/2001 15:00			100.000				.020 U		
09/04/2001 15:01									
09/24/2001 12:30			4000.000				.020 U		
10/24/2001 12:30			100.000 U				.020 U		
11/29/2001 14:00			100.000 U				.020 U		
12/17/2001 13:30			100.000				.020 U		
01/10/2002 14:30			100.000				.020 U		
02/26/2002 12:30			100.000 U				.020		
03/14/2002 14:00			100.000 U				.020 U		
04/04/2002 13:00			100.000 U				.020 U		
05/15/2002 11:00			200.000				.020 U		
06/10/2002 11:50			100.000				.020 U		
07/16/2002 12:00			100.000				.020 U		
08/06/2002 09:45			700.000				.020 U		
09/19/2002 13:35			800.000				.020 U		
10/29/2002 10:45			400.000				.020 U		
11/18/2002 14:30			100.000				.020		
12/17/2002 09:30			200.000				.020		
02/03/2003 13:30			100.000 U				.020 U		
02/13/2003 09:00			100.000 U				.020 U		
03/11/2003 14:00			100.000 U				.020 U		7.400
04/16/2003 09:30			100.000 U				.020 U		5.000
05/25/2003 10:30			100.000 U				.020 U		3.300
08/21/2003 10:45			180.000		70.000	400.000	48.000		3.100
10/16/2003 10:30			150.000		80.000	10.000	51.000		5.200
12/09/2003 10:30			25.000 U		10.000 U	50.000	51.000		5.200
02/04/2004 10:30			320.000		130.000	690.000	65.000		17.000
04/07/2004 10:30			75.000		40.000	10.000	47.000		1.700
06/08/2004 11:30			180.000		100.000	360.000	54.000		4.200
08/12/2004 11:30			50.000		25.000				8.100
10/07/2004 11:00			50.000		25.000				6.200
12/21/2004 11:00			75.000		25.000 U				5.900

4ASRE033.19

Collection Date Time	Temp Celsius	Do Probe	Field Ph	Param. Code	00076	00095	00330	00410	00500	00520	00610	00615	00620	00625	00665
				Name	TURBIDITY, HACH TURBIDIMETER (FTU)	SPECIFIC CONDUCTANCE (UMHOS/CM @ 25C)	BOD, 5 DAY, 20 DEG C MGL	ALKALINITY, TOTAL (MGL AS CaCO3)	RESIDUE, TOTAL (MGL)	NITROGEN, TOTAL (MGL AS N)	NITROGEN, AMMONIA, TOTAL (MGL AS N)	NITRITE NITROGEN, TOTAL (MGL AS N)	NITRATE NITROGEN, TOTAL (MGL AS N)	NITROGEN, KJELDAHL, TOTAL, (MGL AS N)	PHOSPHORUS, TOTAL (MGL AS P)
					Value	Value	Value	Value	Value	Value	Value	Value	Value	Value	Value
							Com Code				Com Code		Com Code		Com Code
02/15/2005 10:30	7.25	10.04	7.42						55.000	.280					.010
04/14/2005 11:00	7.4	12	7.4						59.000	.320					.020
06/27/2005 12:00	20.2	8.1	7.8						56.000	.590					.010
08/16/2005 11:00	18.4	9.5	7.6						92.000	.590					.020
10/13/2005 11:00	15.3	8.6	7.7						61.000	.340					.010
12/29/2005 11:00	7.9	11.5	8						78.000	.480					.060
01/19/2006 13:00															
02/14/2006 12:50	4.8	12.4	7												
02/23/2006 11:00	8.5	12.5	7.9						55.000	.280					.010
03/28/2006 10:30	7.3	12.3	7.2												
04/05/2006 11:00	10.3	9.8	8.1						53.000	.300					.020
04/18/2006 08:30	10.2	10.4	7.3												
05/17/2006 12:15	13.7	10.5	7												
06/12/2006 11:00	17.1	8.2	7.8						67.000	.450					.020
06/21/2006 14:00	14.9	11.4	7.7												
07/26/2006 13:30	16.7	11	7.4												
08/14/2006 12:00															
08/24/2006 11:30	19.3	10.4	7.7						82.000	.410					.030
09/25/2006 10:50	16.9	9	7												
10/04/2006 11:00	14.2	10.8	8						56.000	.250					.010
10/31/2006 12:30	11.4	11	7												
12/14/2006 11:30	8.2	11.7	8.5						53.000	.310					.010
02/21/2007 11:00	8.3	13	7.3						73.000	.530					.030
04/12/2007 12:00	8.7	12.2	7.4						71.000	.390					.040
06/20/2007 10:30	19.3	8.9	5.4						149.000	.800					.060
08/02/2007 11:00	16.8	9.9	6						58.000	.410					.020
10/18/2007 11:00	14.1		5.9						62.000	.290					.010
12/18/2007 10:30	6	12.7	7.4						44.000	.240					.010
02/28/2008 11:30	7.4	12.4	6.6											.200	.010
04/09/2008 10:00	11.7	9.7	7.1						60.000	.380				.500	.030
06/24/2008 11:00	15.5	9.7	6.6						68.000	.430				.300	.030
08/28/2008 11:00	16.9	9	7.5						138.000	.930				.800	.120
10/28/2008 11:30	9	10.9	6.8						52.000	.270				.300	.020
12/22/2008 12:30	3.1	12.4	6.4						67.000	.340				.300	.020
01/14/2009 13:30	4	12.1	6.9						59.000	.420				.300	.020
03/24/2009 13:30	9.5	12.7	7.2						64.000	.250				.200	.020
05/07/2009 11:30	13.2	9.5	7.2						64.000	.360				.300	.030
07/15/2009 11:30	13.9	10.4	7.1						55.000	.290				.100 U	.010
09/08/2009 13:30	17.3	9.3	6.8						60.000	.370				.100 U	.020
11/16/2009 12:00	13.3		7.2						66.000	.370				.200	.040
01/25/2010 12:30	9.8		7						266.000	1.090				.900	.010
03/18/2010 13:30	9.2		7.1						56.000	.390				.300	.020
05/04/2010 13:00	15.8		7.3						52.000	.350				.100	.020
07/06/2010 12:30	17.6		7.3						56.000	.520				.200	.010
09/02/2010 13:30	15.9		8						50.000	.550				.400	.030
11/09/2010 11:30	10.7	11.3	7.1						56.000	.280				.200	.020

Collection Date Time	31616 FECAL COLIFORM MEMBR FILTER, M-FC BROTH, 44.5 C	31648 E. COLI - MTEC-MF ND/100ML	31649 ENTEROCOCCI- ME- MF ND/100ML	50091 MERCURY-TL, FILTERED WATER, ULTRATRACE METHOD: NGL	70300 RESIDUE, TOTAL FILTRABLE (DRIED AT 180C), MG/L	70507 PHOSPHORUS, IN TOTAL ORTHOPHOSPHATE (MG/L AS P)	82079 TURBIDITY LAB NEPHELOMETRIC TURBIDITY UNITS, NTU
	Value	Com Code	Value	Com Code	Value	Com Code	Value
02/15/2005 10:30	25.000		25.000	U			3.950
04/14/2005 11:00	25.000		50.000				3.500
06/27/2005 12:00	75.000		120.000				4.200
08/16/2005 11:00	180.000		120.000				4.700
10/13/2005 11:00	75.000		120.000				5.090
12/29/2005 11:00	180.000		280.000				25.500
01/19/2006 13:00			24.000	B			
02/14/2006 12:50			20.000	B			
02/23/2006 11:00	25.000	U	25.000	U			2.260
03/28/2006 10:30			15.000	B			
04/05/2006 11:00	25.000	U	25.000	U			1.200
04/18/2006 08:30			90.000				
05/17/2006 12:15			22.000	B			
06/12/2006 11:00	1200.000		1000.000				18.400
06/21/2006 14:00			62.000				
07/26/2006 13:30			450.000				
08/14/2006 12:00			56.000				
08/24/2006 11:30	400.000		150.000				8.700
09/25/2006 10:50			950.000	B			
10/04/2006 11:00	25.000	U	25.000	U			1.450
10/31/2006 12:30			44.000				
12/14/2006 11:30	25.000	U	25.000	U			1.950
02/21/2007 11:00	100.000		100.000				5.950
04/12/2007 12:00	450.000		250.000				25.700
06/20/2007 10:30	3600.000		2000.000	L			52.500
08/02/2007 11:00	300.000		320.000				4.900
10/18/2007 11:00	50.000		75.000				2.200
12/18/2007 10:30	25.000	U	50.000				3.100
02/28/2008 11:30	25.000		25.000	U			
04/09/2008 10:00	150.000		75.000				5.600
06/24/2008 11:00	350.000		500.000				14.500
08/28/2008 11:00	1000.000		1400.000				94.500
10/28/2008 11:30	25.000	U	100.000				5.600
12/22/2008 12:30	25.000		120.000				8.900
01/14/2009 13:30	75.000		25.000				5.100
03/24/2009 13:30	25.000	U	25.000	U			3.900
05/07/2009 11:30	900.000		900.000				14.600
07/15/2009 11:30	50.000		50.000				2.000
09/06/2009 13:30	100.000		50.000				1.900
11/16/2009 12:00	100.000		200.000				15.500
01/25/2010 12:30	450.000		200.000				197.000
03/18/2010 13:30	50.000		25.000	U			4.050
05/04/2010 13:00	120.000		75.000				2.940
07/06/2010 12:30	50.000		25.000				2.220
09/02/2010 13:30	100.000		25.000				1.620
11/09/2010 11:30	100.000		25.000	U			1.880

Water Shed Code	Station ID	Station Description
VAW-L52R	4ASRE043.54	RT. 674 BR ABOVE TOWN CREEK

Pgc Spc Parameter Code	Name	MIN	MAX	AVG	No. of Samples
00070	TURBIDITY, (JACKSON CANDLE UNITS)	0.3	52	4.03	47
00076	TURBIDITY, HACH TURBIDIMETER (FORMAZIN TURB UNIT)	0.18	18.3	3.16	101
00080	COLOR (PLATINUM-COBALT UNITS)	0.2	95	17.53	37
00082	COLOR, SPECTROPHOTO, WATER SMPL AT 7.6 PH ADMI UNITS	0	57.1	12.19	132
00083	COLOR, SPECTROPHOTOMETRIC, FIL, WATER SPL ADMI UNITS	0	99.2	12.32	129
00095	SPECIFIC CONDUCTANCE (UMHOS/CM @ 25C)	32	110	57.74	164
00310	BOD, 5 DAY, 20 DEG C MG/L	0.6	8	1.66	171
00340	COD, .25N K2CR2O7 MG/L	1	518	10.93	134
00403	PH, LAB, STANDARD UNITS SU	5.47	8.12	6.70	187
00410	ALKALINITY, TOTAL (MG/L AS CaCO3)	13.2	27.1	19.17	185
00500	RESIDUE, TOTAL (MG/L)	5	359	52.99	288
00505	RESIDUE, TOTAL VOLATILE (MG/L)	4	122	20.92	237
00510	RESIDUE, TOTAL FIXED (MG/L)	0	277	33.18	239
00515	RESIDUE, TOTAL FILTRABLE (DRIED AT 105C), MG/L	12	57	42.91	23
00530	RESIDUE, TOTAL NONFILTRABLE (MG/L)	0	40	3.73	294
00535	RESIDUE, VOLATILE NONFILTRABLE (MG/L)	0	15	2.60	245
00540	RESIDUE, FIXED NONFILTRABLE (MG/L)	0	29	2.81	244
00600	NITROGEN, TOTAL (MG/L AS N)	0.1	0.6	0.32	49
00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)	0.01	0.4	0.06	250
00615	NITRITE NITROGEN, TOTAL (MG/L AS N)	0.01	0.03	0.01	249
00620	NITRATE NITROGEN, TOTAL (MG/L AS N)	0.04	2	0.14	218
00625	NITROGEN, KJELDAHL, TOTAL, (MG/L AS N)	0.1	1.4	0.23	268
00630	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	0.05	0.8	0.18	31
00665	PHOSPHORUS, TOTAL (MG/L AS P)	0.01	0.2	0.06	220
00671	PHOSPHORUS, DISSOLVED ORTHOPHOSPHATE (MG/L AS P)	0.01	0.18	0.03	41
00680	CARBON, TOTAL ORGANIC (MG/L AS C)	1	5.1	2.22	100
00900	HARDNESS, TOTAL (MG/L AS CaCO3)	6.8	37.3	20.65	169
00927	MAGNESIUM, TOTAL (MG/L AS MG)	1900	1900	1900	1
00940	CHLORIDE, TOTAL IN WATER MG/L	1	165	4.18	167
00945	SULFATE, TOTAL (MG/L AS SO4)	3	53.3	4.84	145
00951	FLUORIDE, TOTAL (MG/L AS F)	0.06	0.5	0.14	44
00955	SILICA, DISSOLVED (MG/L AS SiO2)	9.99	15.6	12.47	41
01002	ARSENIC, TOTAL (UG/L AS AS)	1	10	4.29	17
01003	ARSENIC IN BOTTOM DEPOSITS (MG/KG AS AS DRY WGT)	5	5	5	9
01013	BERYLLIUM IN BOTTOM DEPOSITS (MG/KG AS BE DRY WGT)	5	5	5	8
01027	CADMIUM, TOTAL (UG/L AS CD)	1	10	8.34	22
01028	CADMIUM, TOTAL IN BOTTOM DEPOSITS (MG/KG, DRY WGT)	5	5	5	9
01029	CHROMIUM, TOTAL IN BOTTOM DEPOSITS (MG/KG, DRY WGT)	23.3	37	29.93	9
01034	CHROMIUM, TOTAL (UG/L AS CR)	5	50	12.34	32
01042	COPPER, TOTAL (UG/L AS CU)	5	50	14.35	31
01043	COPPER IN BOTTOM DEPOSITS (MG/KG AS CU DRY WGT)	17	23.81	19.98	9
01045	IRON, TOTAL (UG/L AS FE)	90	253.08	135.28	10
01051	LEAD, TOTAL (UG/L AS PB)	1	15	8.89	28
01052	LEAD IN BOTTOM DEPOSITS (MG/KG AS PB DRY WGT)	5	19	11.59	9
01053	MANGANESE IN BOTTOM DEPOSITS (MG/KG AS MN DRY WGT)	280	712	447	6
01055	MANGANESE, TOTAL (UG/L AS MN)	10	130	51.38	10
01065	NICKEL, DISSOLVED (UG/L AS NI)	10	100	87.14	14
01067	NICKEL, TOTAL (UG/L AS NI)	5	50	25	5
01068	NICKEL, TOTAL IN BOTTOM DEPOSITS (MG/KG, DRY WGT)	9.8	16	12.78	9
01078	SILVER IN BOTTOM DEPOSITS (MG/KG AS AG DRY WGT)	5	5	5	8
01092	ZINC, TOTAL (UG/L AS ZN)	5	59.99	17.06	31
01093	ZINC IN BOTTOM DEPOSITS (MG/KG AS ZN DRY WGT)	33	58	42.93	9
01098	ANTIMONY IN BOTTOM DEPOSITS (MG/KG AS SB DRY WGT)	5	14	8	6
01108	ALUMINUM IN BOTTOM DEPOSITS (MG/KG AS AL DRY WGT)	9280	13700	11396.67	6
01147	SELENIUM, TOTAL (UG/L AS SE)	5	20	10	3
01148	SELENIUM IN BOTTOM DEPOSITS (MG/KG AS SE DRY WGT)	1	5	1.44	9
01170	IRON IN BOTTOM DEPOSITS (MG/KG AS FE DRY WGT)	18400	26500	21650.00	6
01351	FLOW, STRM, 1DRY, 2LOW, 3NORM, 4FLOOD, 5ABOVE NORM, CODE	3	5	3.07	174

Water Shed Code
VAW-L52R

Station ID
4ASRE043.54

Station Description
RT. 674 BR ABOVE TOWN CREEK

Pgc Spc Parameter Code	Name	MIN	MAX	AVG	No. of Samples
31505	COLIFORM,TOT,MPN,CONFIRMED TEST,35C (TUBE 31506)	1	11000	3265.56	9
31616	FECAL COLIFORM,MEMBR FILTER,M-FC BROTH,44.5 C	0	6000	201.70	311
31648	E. COLI - MTEC-MF N0/100ML	10	2000	71.77	48
31649	ENTEROCOCCI- ME-MF N0/100ML	10	30	15	6
32210	CHLOROPHYLL-A UG/L TRICHROMATIC UNCORRECTED	0.5	1.571	0.78	15
32211	CHLOROPHYLL-A UG/L SPECTROPHOTOMETRIC ACID. METH.	0.5	1.39	0.82	15
32212	CHLOROPHYLL-B UG/L TRICHROMATIC UNCORRECTED	0.5	0.5	0.5	15
32214	CHLOROPHYLL-C UG/L TRICHROMATIC UNCORRECTED	0.5	0.61	0.51	15
32218	PHEOPHYTIN-A UG/L SPECTROPHOTOMETRIC ACID. METH.	0.5	0.5	0.5	15
32219	PHEOPHYTIN RATIO(OD 663)SPECTRO,BEFORE/AFTER ACID	1.598	3.222	2.42	9
32240	TANNIN AND LIGNIN (MG/L)	0	5	0.31	119
32730	PHENOLICS, TOTAL, RECOVERABLE (UG/L)	0	0.01	0.002	9
34480	THALLIUM DRY WGTBOTMG/KG	5	5	5	7
39061	PCP (PENTACHLOROPHENOL) IN BOT DEPOS DRY SOL UG/KG	50	80	66.67	9
39333	ALDRIN IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOLIDS)	10	100	43.11	9
39351	CHLORDANE(TECH MIX&METABS),SEDIMENTS,DRY WGT,UG/KG	40	500	157.11	9
39363	DDD IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOLIDS)	10	100	44.67	9
39368	DDE IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOLIDS)	10	100	46	9
39373	DDT IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOLIDS)	20	100	46.44	9
39383	DIELDRIN IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOL.)	10	100	40.67	9
39388	ENDOSULFAN IN WHOLE WATER SAMPLE (UG/L)	0.2	0.2	0.2	1
39393	ENDRIN IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOLIDS)	30	100	61.67	9
39403	TOXAPHENE IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOL.)	1	1000	227.11	9
39413	HEPTACHLOR IN BOT. DEP. (UG/KILOGRAM DRY SOLIDS)	0.1	100	27.68	9
39526	PCBS TOTAL,IN SEDIMENT,DRY (ISOMER ANALYSES) UG/KG	10	500	148.11	9
46570	HARDNESS, CA MG CALCULATED (MG/L AS CaCO3)	17.72	17.72	17.72	1
70300	RESIDUE,TOTAL FILTRABLE (DRIED AT 180C),MG/L	39	49	43.67	6
70505	PHOSPHATE,TOTAL,COLORIMETRIC METHOD (MG/L AS P)	0.05	0.7	0.11	79
70507	PHOSPHORUS,IN TOTAL ORTHOPHOSPHATE (MG/L AS P)	0.01	0.32	0.03	208
71900	MERCURY, TOTAL (UG/L AS HG)	0.3	0.6	0.46	28
71921	MERCURY,TOT IN BOT DEPOS (MG/KG AS HG DRY WGT)	0.3	0.5	0.32	9
71994	VOLUME OF WATER FILTERED LITERS	0.3	0.3	0.3	15
74041	STORET STORAGE TRANSACTION DATE YR/MO/DAY	881208	990127	927860	191
75045	HEPTACHLOR EPOXIDE SEDIMENT,DRY,WT,UG/KG	10	100	40.67	9
79799	DICOFOL (KELTHANE) SEDIMENT,DRY,WT,UG/KG	70	160	100	9
82078	TURBIDITY,FIELD NEPHELOMETRIC TURBIDITY UNITS,NTU	0.67	7.7	3.16	24
82079	TURBIDITY,LAB NEPHELOMETRIC TURBIDITY UNITS, NTU	0.1	8.78	2.44	53



2010 Impaired Waters

Categories 4 and 5 by Impaired Area ID*

Roanoke and Yadkin River Basins

Cause Group Code: **L52R-01-BAC** **Smith River**

Location: The bacteria impairment begins at the Blackberry Creek mouth on Smith River VAW-L52R (Bassett Quad) and extends downstream to the backwaters of the Martinsville power pool (Martinsville West Quad).

City / County: Henry Co. Martinsville City

Use(s): Recreation

Cause(s)* /

VA Category: Escherichia coli/ 4A

The 2002 Assessment basis for 303(d) Listing the waters is exceedance of the former fecal coliform (FC) bacteria instantaneous criterion of 1000 cfu/100 ml and the former geometric mean (WQS frequency of 2 samples/calendar month of 200 cfu/100 ml causing the waters to not support the recreational use. Special monitoring on Blackberry Creek (L52R) and the Smith River (L53R) reported and 303(d) Listed these exceedances in 2002.

The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 12/8/2008 [Fed ID 35756] and SWCB approved 4/28/2009. The Smith River is encompassed by the overall Dan River Bacteria TMDL Watershed and allocations. Portions of the Smith River are nested within the TMDL Watershed. The TMDL and allocations can be viewed at <http://www.deq.virginia.gov>.

A portion of the bacteria impaired waters were delisted in 2004 for the area between the Blackberry Creek mouth on the Smith River (L52R Bassett Quad) extending downstream to the Reed Creek confluence on the Smith River L53R- Martinsville West Quad), 2.29 miles. The de-listing of these waters was based on an exceedance rate of less than 10.5%. This portion returned to 303(d) Listing status with the 2006 Integrated Report (IR) based on stations 2000W0034A and 4ASRE036.55. The total bacteria impairment size is 10.18 miles.

4ASRE036.55- There are no additional data beyond the 2008 assessment where E.coli are found to exceed the 235 cfu/100 ml instantaneous criterion in three of 21 samples. Exceeding values range from 250 to 720 cfu/100 ml. 2006 exceedances are 250 and 350 cfu/100 ml from two of nine samples.

4ASRE033.19- The 2010 assessment finds E.coli exceed the instantaneous criterion in nine of 43 observations with excess values ranging from 250 cfu/100 ml to greater than 2000. E.coli exceed the instantaneous criterion in four of 31 samples in 2008. Exceeding values range from 280 to 1000 cfu/100 ml.

Special Study Stations:

2008 E. coli exceedances / total observations; range 2008 / 2006 & 2004 exceedances / total observations; range 2004.

2000W0034B- (downstream of Blackberry Creek confluence)- SS data ends 6/06/02- 1 of 10 at 270 / 2006 & 2004- 2 of 20; 270 to >800.

2000W0034A- (located downstream in VAW-L53R)- SS data ends 6/06/02- 1 of 11 exceeds at >800 / 2006 & 2004- 2 of 21; at >800.

Assessment Unit / Water Name / Description	Cause Category / Name	Nested	Cycle First Listed	TMDL Schedule or EPA Approval	Size
VAW-L52R_SRE01A00 / Smith River / The Smith River mainstem from the Blackberry Creek mouth downstream to Rock Run mouth (Watershed Boundary).	4A Escherichia coli	Y	2006	12/8/2008	0.96
VAW-L53R_SRE01B06 / Smith River / Smith River mainstem from the former E. I. duPont outfall upstream to the E. I. duPont water intake on the Smith River.	4A Escherichia coli		2008	12/8/2008	0.49
VAW-L53R_SRE02A00 / Smith River / Smith River mainstem from the E. I. duPont intake upstream to the former Henry County PSA Upper Smith River STP outfall.	4A Escherichia coli		2008	12/8/2008	4.26



2010 Impaired Waters

Categories 4 and 5 by Impaired Area ID*

Roanoke and Yadkin River Basins

Assessment Unit / Water Name / Description	Cause Category / Name	Nested	Cycle First Listed	TMDL Schedule or EPA Approval	Size
VAW-L53R_SRE03A00 / Smith River / Smith River mainstem from the Henry County PSA Upper Smith River STP upstream to the mouth of Reed Creek.	4A Escherichia coli		2008	12/8/2008	2.18
VAW-L53R_SRE04A00 / Smith River / Smith River mainstem from the mouth of Reed Creek upstream to an unnamed tributary. The unnamed tributary is approximately 0.70 miles downstream of the Alt. 57 Bridge.	4A Escherichia coli	Y	2006	12/8/2008	0.81
VAW-L53R_SRE05A00 / Smith River / Smith River mainstem from an unnamed tributary located approximately 0.70 miles downstream of the Alt. 57 Bridge, upstream to the watershed boundary at the mouth of Rock Run.	4A Escherichia coli	Y	2006	12/8/2008	1.48
Smith River					
Impaired Area ID: VAW-L54R-01 - Recreation				Estuary (Sq. Miles)	River* (Miles)
				Reservoir* (Acres)	
Escherichia coli - Total Impaired Size by Water Type:					10.18

Sources:

Municipal (Urbanized High Density Area)	Unspecified Domestic Waste	Wet Weather Discharges (Non-Point Source)	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)
Wildlife Other than Waterfowl			

*Incorporates only those Cause Group Codes assigned to the Impaired Area ID. Header Information: Location, City/County, Cause/VA Category and Narratives describe the total impaired area per Cause Group Code. Sizes may not reflect the entire specific Cause impairment.

ATTACHMENT C

EFFLUENT SCREENING AND LIMITATIONS

1. DMR Data
2. Storm Water Data and EPA SW
Benchmark Values

CPFilms, Inc. - VPDES Permit No. VA0072354
Outfall 001

DMR Due Date	Flow (MGD)		pH (su)		Temp Rise deg C	Temp Downstream	Temp Upstream	Effluent Temp
	Avg	Max	Min	Max				
10-Apr-2006	0.555	0.73	7.11	7.67	0.3	10.2	10	12
10-May-2006	0.597	0.65	7.22	7.53	0.3	9.4	9.2	11.3
10-Jun-2006	0.575	0.68	6.81	8.19	0.2	13.6	13.5	14.7
10-Jul-2006	0.644	0.68	7.02	7.44	0.3	15.9	15.6	18
10-Aug-2006	0.617	0.66	7.31	7.48	0.2	16.9	16.9	18.8
10-Sep-2006								
10-Oct-2006	0.782	0.81	7.1	7.66	0.1	18.2	18.2	18.8
10-Nov-2006	0.727	0.78	7.09	7.88	0	16.4	16.4	16.3
10-Dec-2006	0.65	0.89	7.22	7.56	0	12.8	12.8	12.9
10-Jan-2007	0.64	0.69	6.85	7.28	0.1	12.1	12.1	12.3
10-Feb-2007	0.588	0.61	6.8	7.21	0.1	10	10	11.4
10-Mar-2007	0.566	0.6	6.82	7.13	0	7.4	7.4	7.7
10-Apr-2007	0.52	0.54	6.79	7.26	0.2	8.8	8.6	10.6
10-May-2007	0.592	0.79	7.08	7.31	0.2	11.6	11.6	12
10-Jun-2007	0.741	0.76	7.22	7.89	0	18.5	18.5	18.3
10-Jul-2007	0.725	0.77	6.89	7.24	0	19.6	19.6	19.4
10-Aug-2007	0.756	0.87	6.84	7.23	0	19.7	19.7	19.6
10-Sep-2007	0.715	0.81	6.78	7.2	0.1	19.1	19.1	19.1
10-Oct-2007	0.534	0.67	7.05	7.45	0	19	19	19.1
10-Nov-2007	0.646	0.83	7.01	7.33	0.1	16.4	16.4	16.6
10-Dec-2007	0.647	0.67	6.79	7.03	0	14.1	14.1	14.2
10-Jan-2008	0.698	0.72	6.82	6.94	0	14.2	14.2	14.4
10-Feb-2008	0.693	0.73	6.84	7.1	0.1	11.9	11.8	13
10-Mar-2008	0.668	0.72	6.97	7.62	0.2	10.6	10.5	11.8
10-Apr-2008	0.633	0.67	7.24	7.51	0.2	11.9	11.8	13.5
10-May-2008	0.63	0.66	7.21	7.59	0.1	15.2	15.1	16.3
10-Jun-2008	0.542	0.64	6.98	7.53	0.1	15.6	15.6	16.9
10-Jul-2008	0.582	0.63	7.32	7.58	0.1	19.7	19.7	19.6
10-Aug-2008	0.62	0.67	7.12	7.51	0.1	19.6	19.6	19.5
10-Sep-2008	0.577	0.63	7.11	7.4	0.1	17.6	17.5	18.7
10-Oct-2008	0.609	0.64	7.2	7.54	0	18.1	18.1	18.6
10-Nov-2008	0.548	0.58	7.24	7.39	0	16.8	16.8	17.2
10-Dec-2008	0.516	0.57	6.87	7.4	0.1	11.8	11.8	11.9
10-Jan-2009	0.488	0.51	6.83	7.28	0	10	10	10
10-Feb-2009								
10-Mar-2009								
10-Apr-2009								
10-May-2009								
10-Jun-2009								
10-Jul-2009								
10-Aug-2009								
10-Sep-2009								
10-Oct-2009								
10-Nov-2009								
10-Dec-2009								
10-Jan-2010								
10-Feb-2010								
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10-Apr-2010								
10-May-2010								
10-Jun-2010								
10-Jul-2010								
10-Aug-2010								
10-Sep-2010								
10-Oct-2010								
10-Nov-2010								
10-Dec-2010								
10-Jan-2011								
10-Feb-2011								
10-Mar-2011								

CPFilms, Inc. - VPDES Permit No. VA0072354
Outfall 002

DMR Due Date	Flow (MGD)		pH (su)		Temp Rise deg C	Temp Downstream	Temp Upstream	Effluent Temp
	Avg	Max	Min	Max				
10-Apr-2006	0.774	0.791	7.1	7.68	0.3	10	10	11.7
10-May-2006	0.666	0.85	7.22	7.51	0.2	9.3	9.2	10.3
10-Jun-2006	0.641	0.857	6.77	8.25	0.2	13.5	13.5	14.8
10-Jul-2006	0.637	0.699	7.05	7.46	0.2	15.8	15.6	17.7
10-Aug-2006	0.631	0.676	7.21	7.46	0.2	17.5	17.4	18.8
10-Sep-2006	0.587	0.605	7.28	7.98	0	19.4	19.4	19.7
10-Oct-2006	0.571	0.614	7.08	7.66	0.1	18.2	18.2	18.5
10-Nov-2006	0.542	0.567	7.12	7.91	0	16.4	16.4	16.1
10-Dec-2006	0.61	1.041	6.58	7.58	0.1	12.8	12.8	13.3
10-Jan-2007	0.518	0.554	6.87	7.2	0	12.1	12.1	12.5
10-Feb-2007								
10-Mar-2007								
10-Apr-2007								
10-May-2007								
10-Jun-2007								
10-Jul-2007								
10-Aug-2007	0.64	0.654	6.83	7.26	0.1	19.7	19.7	19.8
10-Sep-2007	0.615	0.65	6.81	7.22	0.1	19.1	19.1	19.2
10-Oct-2007	0.609	0.709	7.01	7.47	0.1	19	19	19.2
10-Nov-2007	0.659	0.788	7.04	7.35	0.1	16.4	16.4	16.8
10-Dec-2007	0.642	0.667	6.79	7.05	0.1	14.1	14.1	14.7
10-Jan-2008	0.647	0.677	6.81	6.95	0.1	14.3	14.2	15.2
10-Feb-2008	0.646	0.679	6.81	7.08	0.1	11.9	11.8	13.4
10-Mar-2008	0.637	0.663	6.98	7.64	0.2	10.6	10.5	12.4
10-Apr-2008	0.596	0.653	7.26	7.53	0.2	11.8	11.8	12.8
10-May-2008	0.602	0.618	7.19	7.58	0.1	15.1	15.1	16.1
10-Jun-2008	0.551	0.651	6.98	7.5	0.1	15.6	15.6	16.8
10-Jul-2008	0.588	0.512	7.31	7.56	0	19.7	19.7	19.5
10-Aug-2008	0.578	0.621	7.14	7.49	0.1	19.6	19.6	19.8
10-Sep-2008	0.565	0.59	7.1	7.41	0.1	17.5	17.5	17.9
10-Oct-2008	0.559	0.646	7.18	7.51	0.1	18.1	18.1	18.5
10-Nov-2008	0.532	0.559	7.2	7.37	0.1	16.8	16.8	17.5
10-Dec-2008	0.548	0.582	6.88	7.37	0	11.8	11.8	12.2
10-Jan-2009	0.564	0.669	6.87	7.23	0.1	10	10	10.5
10-Feb-2009								
10-Mar-2009							0	
10-Apr-2009	0.614	0.628	6.73	6.73	0	9.2	9.2	8.2
10-May-2009	0.499	0.499	6.64	6.64	0	9.6	9.6	9.6
10-Jun-2009								
10-Jul-2009								
10-Aug-2009								
10-Sep-2009								
10-Oct-2009								
10-Nov-2009	0.57	0.9013	6.4	7.3	0.1	13.1	13	17.5
10-Dec-2009								
10-Jan-2010								
10-Feb-2010								
10-Mar-2010								
10-Apr-2010								
10-May-2010								
10-Jun-2010								
10-Jul-2010								
10-Aug-2010								
10-Sep-2010								
10-Oct-2010								
10-Nov-2010								
10-Dec-2010								
10-Jan-2011								
10-Feb-2011								
10-Mar-2011								

CPFilms, Inc. - VPDES Permit No. VA0072354
Storm Water Data

Parameter	001	003	Outfall		006*	007	EPA
			004	005			Benchmark
Oil & Grease (mg/l)	<5	<5	<5	<5		<5	15
BOD5 (mg/l)	3	8	3	8		3	30
COD (mg/l)	31	43	27	43		27	120
TSS (mg/l)	32	24	31	24		31	100
TKN (mg/l)	0.57	0.79	<0.5	0.79		<0.5	---
Phosphorus (mg/l)	0.053	0.046	0.073	0.046		0.073	2
pH (su)	7.3	6.11	7.08	6.11		7.08	6.0 - 9.0

Note: 003 substantially identical to 005, and 007 substantially identical to 004

* not sampled, no industrial activity